HUNTER VALLEY 99'ERS NEWS

TI 99/4A

HOME COMPUTER NEWSLETTER

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The Secretary - HV'99ERS
6 Arcot Close, TARRO - NSW.
Australia - 2322

YOUR COMMITTEE

STD AREA CODE 049

PRESIDENT
Paul Mulvaney
26 Marmong St.,
MARMONG POINT 2284
Ph. 583623

VICE PRESIDENT
Alan Lawrence
35 Bayview St.,
WARNERS BAY 2282
Ph. 486509

SECRETARY
Albert Anderson
6 Arcot Close,
TARRO 2322
Ph. 662602
Viatel 49662620Z0

TREASURER
Peter Smith
8 Glebe St.,
EAST MAITLAND 2322
Ph. 336164
Viatel 493361640

SOFTWARE LIBRARIAN
Alan Franks
822 Pacific Hwy.,
MARKS POINT 2280
Ph. 459170

PUBLICATIONS LIBRARIAN
Allen (Joe) Wright
77 Andrew Rd.,
VALENTINE 2280
Ph. 468120

EDITOR
Brian Woods
9 Thirlmere Pde.,
TARRO 2322
Ph. 662307
Viatel 496623070

PURCHASING CO-ORDINATOR
Bob MacClure
75 Deborah St.,
KOTARA SOUTH 2288
Ph. 437431

TECHNICAL CO-ORDINATOR
Gary Jones
53 Janet St.,
JESMOND 2299
Ph. 573744

SIGs CO-ORDINATOR
Brian Rutherford
9 Bombala St.,
DUDLEY 2290
Ph. 498184

CONTRIBUTIONS

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Please include along with your article sufficient information to enable the file to be read by the Editor eg. File Name etc. The preferred format is 35 columns and page length 66 lines, right justified.

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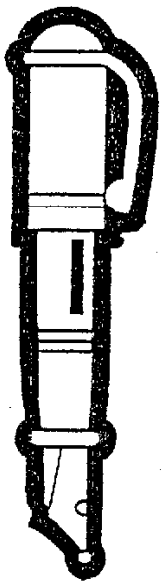


with Paul Mulvaney

HAPPY BIRTHDAY AUSTRALIA 200 YEARS

In the midst of bicentennial fever it is time to think about another years computing. The major event for the TI community in Australia this year is the TI-Faire in Brisbane in May. If you are considering visiting EXPO 88 make it in May.

During the last 2 months I have done very little with my computer, during a 2 week holiday in Tasmania I caught up with Steve Taylor and found he is having trouble with his PE box, this explains why his LOGO articles are not appearing in the newsletter. Fear not Steve the voltage regulator will be in the mail this week.

Ron 'BLACK HOLE' Kleinschafer escaped to civilisation and called in for a chat. He just happened to have his EPROM burner with him and I scrounged up some parts and I am now the proud owner of a Funnelweb Loader module, on power up I select 2 FUNNELWEB and its straight to the menu, GREAT.

Its good to see a smile back on our Editors face, Brian was having trouble with his CorComp controller and Ron replaced the edge connector so there was better connection between the computer and the controller. Thanks Ron.

The 87 disk is now the 88 disk as I have only been able to half fill it. Come on members dont be embarassed get your programs to me and do your bit for the TI community.

SECRETARYS REPORT

FROM ALBERT ANDERSON

Welcome back to everyone for the 1988 session of 4A computing with the Hunter Valley 99'ers and thanks to all those that sent us Christmas cheers.

Well this year has started off with some really good stuff coming to us from our friends overseas. It looks like while we've been at the beach and having holidays etc. our counterparts in the northern hemisphere have been pretty busy turning out new hardware, new software as well as improving on already good software. Anyway, with the cold snaps and blizzards in Canada, USA and Europe over the past couple of months what better form of personal heating could you get than a 4A console and power supply???

During our break the exchange newsletters kept rolling in like clockwork and in them is vast amounts of user info and gossip and reviews and reports on TI-Faires and on and on ... the publication library has it all. The Guilford Users Group in North Carolina, USA through Bob Carmany were kind enough to send us back issues of the last 3 years of their newsletter and boy is there some reading in this lot. Bob probably thinks that I've given up writing to him but I haven't, - I'm just buried in newsletters! Similarly, Edgar Dohmann of the Johnson Space Centre group in Texas also sent us the last 12 months of back issue material and it too is excellent. A huge thank you to these two groups for this gesture...

it is much appreciated by the HV99'ers I assure you.!!

During Dec/Jan we also had several newsletter exchange requests from user groups, particularly in the US of A. This is very pleasing to us as we consider that this type of interchange is vital to the continued success of the HV99 group and indeed the continued use of the 4A machine. It does however pose a monetary problem to small and medium sized user groups with limited funds. As other Australian user groups that exchange overseas can verify, the postage costs to anywhere outside Australia are just a shade short of extortion. Monitoring the postal charges from the US and Canada, I have noted that the cost for similar type newsletters coming in by Airmail is under half that charged by Australia Post. Well, what do we do about it? Stop sending to the "little" ones or save by sending surface mail and let them put up with out-dated information.... no bloody way!!! These contacts are too valuable to us. Elsewhere in the newsletter is a proposal to ease the burden and it is along the lines of the 'ADOPT A GROUP' theme that I suggested in one of the early '87 issues of the HV99 newsletter.

Enough of the treasurers woes, or maybe onto some more. Over the break some of our hardware hackers came from near and far to aid in the building and testing of the 32k NQ.E/A Module project. All have been successfully completed and are in the process of being sent to their owners. This little exersize has caused our treasurer to learn the fine art of juggling over the last couple months so to those that have made part payment could you please use the following information and get your final payment in as soon as possible. Final cost of the module came out at $74:00(Aus) so you would have to deduct the amount that you have already paid and send HV99 the remaining amount.

As the first run of orders for the module was completely filled and further interest has been shown, we have begun a list of future orders. *** PLEASE TAKE NOTE **** The next run of the 32k NQ E/A WILL NOT be commenced until we have a 20 order to place for the PC Boards so if you would like to place an order just let me know. Bye the way, all 20 modules fired up OK, and an experiment in assembly language by Pete Smith to test the unit also worked first time. Thanks to those that helped, especially our visitor from CHAOS MANOR, Ron Kleinschafer. Mentioning Ron, we had the honour to have him in the big smoke for about a month or so during the break.... no software library was spared, Allan Franks (software librarian) had to have a new front door key cut and Brian Woods had his console and Corcomp System gutted by a 4A addict needing a 'fix'.

Locally around Australia news has been pretty sparce as expected but an item from the TIsHUG group in Sydney informed us that the MULTI-FUNCTION peripheral board for the PE-Box is well past the prototyping stage and should be in the hands of owners this month. I don't have the final costing or ordering details but the TIsHUG group address is :-
TISHUG, PO.Box 214, Redfern, NSW. 2016 (Australia).

Further news from the Brisbane group advises us that planning on the TI-EXPO '88 (should be '99) is well under way and the date and venue have been confirmed as Saturday 21st May 1988 at the BRISBANE COLLEGE OF ADVANCED EDUCATION in Carseldine.

You may or may not be interested to know that over the break yours truly actually had a little time to actually have a play with my 4A. I discovered lots of things about my Ramdisk which I use consistently and have never really appreciated until now...great piece of gear Horizon. Lots of things that FUNNELWEB does besides wordprocessing, also great stuff guys, bits and pieces on very basic assembly thanks to the 32K E/A project and even the odd computer game. So if you use your machine for the same mundane tasks day in & day out, which it undoubtedly will do until the cows come home and even longer, give the machine a break and try some of the other clever little pieces of 4A magic... its like a dose of new electrons!!! Bye...

Albert Anderson
4a4me

IN THE NEWS

A POT POURRI OF LOCAL AND INTERNATIONAL NEWS COMPILED BY

joe wright

I hope everybody is getting rolling again after the summer holidays. There are very few among us who do not manage to get away for some time in December/January period.

On the TI-99/4A front the outstanding event of 1988 here in Australia will be the TI-EXPO being held in Brisbane, at the same time as the World Expo. The TI-EXPO is being presented by the Texas Instruments Brisbane User Group.

The address of the Brisbane Group is;

P.O. BOX 57
ASPLEY 4034
QUEENSLAND
AUSTRALIA.

The gentleman charged with the responsibility of organising and running the EXPO is;

Garry Christensen
36 HENZELL St.
KIPPA-RING 4020
QUEENSLAND
AUSTRALIA.

I have no doubt that Garry and his merry band of Banana Benders would love to see you in Brisbane for this event. Some of our members will be travelling to the EXPO, more details on this will be in the Secretary's column as the EXPO draws near.

Q.E.D. MODULE.
This is the name given to the 32K battery backed super module designed and developed by Neil Quigg. Twenty modules have be built and tested, all were spoken for. They are now being delivered to the people who had placed the original 20 orders, one being yours truly. I had my module for about 7 days before the annual 14 day pilgrimage to South West Rocks. On returning back home the programme which I had saved into the module was still intact, how long the battery, once fully charged, will last will be interesting to find out. At this point further orders will be accepted, the number will need to get to 20 again before we go ahead and purchase the parts. The company we have had make the circuit boards have done an excellent job, as well as being a good job, the boards also look good.

LOST ADVENTURE.
Jack Sughrue writing in the November 87 MUNCH tells us that ZORK II is no longer available. "At one time you could get ZORK II from Infocom. No more. It is one of the great disappearing games of the TI era. What will be next? INFIDEL? THE HITCHHIKERS GUIDE TO THE GALAXY? WITNESS? ENCHANTED? Or the most peculiar SUSPENDED?.

Who knows?

But when these and the following are gone from INFOCOM's stock, there will be no more; DEADLINE, STARCROSS, ZORK I and II, SORCERER, PLANETFALL, and CUTTHROATS. These dozen games from the most creative adventuring minds in the computer business are all that's left for the 99. But it is a very large ALL.

While the price is still around US$45-00 on the average for the I.B.M., Apple and Commodore versions of the same games, TI owners have an opportunity to get them for US$14-95, (plus shipping charges)."

INFOCOM's address is;

INFOCOM
P.O. BOX 478
CRESSKILL,
NJ 07626
U.S.A.

LEGENDS.
While on the subject of adventures the ASGARD SOFTWARE product LEGENDS has been getting very good reviews in Newsletters coming from the U.S. Here is the contents of an advertisement for LEGENDS in the November MUNCH.

"With over one year spent in development and testing, LEGENDS is one of the most flawless adventures ever for the 99/4A.

Based on popular role-playing games, LEGENDS occupies two complete SS/SD disks. You must guide your party of four characters through a vast island, and six separate dungeons in search of the answer to your quest, gold and treasure. Along the way you will fight with spells and weapons, animated full-colour monsters against a background of detailed forests, mountains and dungeons.

Legends features a character generator for creating your own players, 44 distinct game screens and over 50 detailed monsters. During your travels you can stay at Inns, use teleporters, drink potions, avoid traps, solve puzzles, talk to the natives, bribe monsters, and be bribed. as your characters advance in experience you can send them to the Adventurers Guild for additional training in the arts of combat and magic. These skills will be needed for the challenge.

Don Granoe and Ed Johnson, the authors, carefully crafted a fine programme that features custom assembly language routines for rapid graphics action. Legends requires a TI-99/4A with 32K, TI Extended Basic and one disk drive, or a MYARC GENEVE 9640. It is furnished unprotected and is available from all ASGARD SOFTWARE dealers."

ASGARD SOFTWARE
P.O. BOX 10306
ROCKVILLE
MD 20850
U.S.A.

ARCHIVER.
From TIDBITS December issue, Gary Cox writes;

"A new Archiver version 2.3 by Barry Boone will not only archive programme but compress them from 25% to 80% of their original size just like archivers on IBM computers. This saves a lot of space and time when you intend to send a lot of files over the modem."

Gary also mentions the new version of Funnelweb, his words are "FANTASTIC utility package!".

CERTIFICATE 99
Steven D.MEHR reviews this new release from Great Lakes Software in the December MICROPENDIUM - he are some of his comments.

"When I heard that Great Lakes Software was going to release Certificate 99, a certificate and sign making program for the TI, I couldn't wait to receive it. Having an immediate application for the program, I was anxious to start printing documents with my TI that were up until now quite difficult, if not impossible.

Certificate 99 lets you create professional looking certificates, awards, diplomas, licenses, signs, advertisements etc. Included with the program are 6 text fonts, which you can output in two sizes, 12 border designs, and 24 custom graphic designs. A supply of single sheet parchment paper and gold foil seals are also included to get you started right away.

VALUE: Throughout this review, no comparison was made between Certificate 99 and any other similar programme running on any other computer. For this reason the programme was judged on it's own merits as it performs in the 99/4A operating system environment. Although it may appear that I have been quite critical throughout this review, I do feel that Certificate 99 offers a fair value for money.

FINAL GRADE: Like most other programmes we purchase for our computer, there are some things we like and some things we dislike. All things considered, I feel that Great Lakes Software has produced a potential winner. It does what it's supposed to do quickly and easily,

allows you to print documents with your TI that were up to now quite difficult if not impossible to produce, and just needs a little polish here and there. I'm sure the next release of Certificate 99 will address these areas. Until then my Certificate 99 disk will get it's share of use with my TI. As they say, "a spinning disk gathers no dust".

EASE OF USE.....A
PERFORMANCE.....C
DOCUMENTATION.....B
VALUE.....B
FINAL GRADE.....B

COST US$19.95

MANUFACTURER;
GREAT LAKES SOFTWARE,
804 E. GRAND RIVER AVENUE
HOWELL,
MI 48843
U.S.A.

OLDIES BUT GOODIES.
I have started going through some of our library Newsletters in my spare time and looking at what I consider to be articles worth reading. I have listed some below, and will update the list as I get time to go through more newsletters;

CIN-DAY MARCH 1987
View from Italy. Padro Bagnaresi

CIN-DAY FEB 1984
Menory Architecture. Ed York

CIN-DAY MAY 1985
Forty Column Screen Ex Basic.
R.Tamashiro

CIN-DAY APRIL 1985
Fixing blown disks. D.Thomson

HUG MAY 1986
Sprite coinc. in Ass. Language.
John Phillips

HUG APRIL 1986
Forth Screen dump. H.Rogers

HUG DEC. 1984
Printing Labels from T.I. Writer.
A9CUG N/LETTER.

HUG JULY 1984
Rational Operators. Curtis Garcia.

HUG JUNE 1984
T.I. Writer. Jane McAshan.

GREAT MAIL OUT.
The next great mail out will take place in early March, I have got a lot of STUFF to put in, so sorting out the better STUFF will keep this little bloke busy for a while. Anything that is good but doesn't make it this time will get into the next lot for sure. That's it from me.

WHAT IS A RAMDISK

This article, by Gerald Smith, originally appeared in the December 1986 issue of TIDBITS, the newsletter of the Mid South Users Group, Louisiana, USA

A RAMdisk is a certain portion of RAM memory that has been partitioned and set up to imitate or 'emulate' a disk drive. For all practical purposes the RAMdisk IS a disk drive. It just stores the files in RAM rather than on a floppy disk.

The main advantage of this is speed. If you have ever seen a Hard Disk Drive in operation then you have a pretty good idea of how a RAMdisk operates. Think back to when you first upgraded your TI from cassette to disk drive operation. You were probably thrilled with loading a program in 10 seconds instead of 2.5 minutes. Now that time has been cut down to 1.5 seconds. Of course, the time differential will increase the larger the program. Once you get used to using a RAMdisk, you'll want to store large files into it that you will be accessing a lot in one session at your computer. MULTIplan would be a good candidate for that. In comparison, a program which takes 6 seconds to load from a disk drive will take 2 seconds to load from a RAMdisk; a program that takes 16 seconds to load from a disk will take only 4.25 seconds to load from a RAMdisk.

the FUNNELWEB report

TONY MCGOVERN
FUNNELWEB FARM

Here we are back writing again after a break of many months of hard programming labor. It has been the Southern Hemisphere winter for much of the period and it's now into summer again, not that many readers outside Australia would consider a Newcastle, NSW winter to be a real winter. I have lived through Oregon and Colorado winters so I do know the difference. Even here winter leaves a lot more time for programming than summer, the funnelwebs are quiescent, and mail from the rest of the world has been very slow. I hope this is just a sign of summertime elsewhere and not of the death throes of the 99/4a. Can't be that as it is still too good a machine to give up on easily. The LA earthquake or maybe it was just our reply (see ENTCOR #13) seems to have quietened down the scurrilous nonsense from that part of the world. Hopefully those responsible are now doing something constructive for a change.

The main news is that FUNNELWEB Vn 4.Ø is now out. This incorporates all developments since the final Vn 3.4 of May/87. Bugs coming to our notice since release have been repaired, and some little improvements sometimes made where bug fixes forced file changes. The final 4.Ø is dated Dec/ 22/ 87 and any further updates will have to wait for Vn 4.1, assuming the is enough interest on both sides of the fence to keep development going. What I propose to do here is to give some further explanation and background discussion over and above the FWDOC/s which are of necessity refined to eliminate any excess verbiage. So until I run out of space I'll just keep talking about the how and why of FWB 4.Ø, and continue next time if it overflows a reasonable length.

A real change is that UPATCH and ULINSTL have disappeared, and LOAD now contains a warning that it is NOT to be edited. All of the setup procedure is now handled by the single CONFIG program. CONFIG started out as a way of combining the functions of ULINSTL and UPATCH. Then towards the end of the development we were able to get Myarc XBII going after a fashion. The only communication we have ever been able to get out of Lou Phillips was the return of a disk with the Vn 2.12 files which sat around for months because we had no way of running them. Then Pete Smith upgraded his XBII to Vn 2.12 and passed on his old 128K-OS ROM for the Myarc RAMdisk. Not sure what problems the mismatch causes, but we have XBII up and running sort of. The point addressable graphics is what TI should have provided all along and the lack was always the worst failing of XB (and TI LOGO also). Mostly, but not always it is faster, but curiously enough is not fast enough to keep up with the sprite routines in the TXB game program, which work even in console XB only. The real nuisance factor with the Myarc 128K-OS is that it always writes its boot header and code into cartridge RAM on power-up, even if the 128K-OS is NOT enabled. This destroys anything else you want to keep in your Cache Card, Super-cart or whatever, DEBUG for instance or FWB even. This is an atrocious design blunder and users can only hope that they fix it at minimal cost. Welcome late news from Canada is a fairware program JLOAD by Jon Bannister which allows the M15 pre-128KOS ROM to be used with XBII. More on this next time.

So what has all that to do with CONFIG ? The relevance is that once the XB entry code had been adjusted to sense the presence of XBII (same simple trick as used by LDFW - get a character from the screen area in VDP and see whether it has a >6Ø XBasic screen offset) then it was found that reSAVEing LOAD to disk under Myarc XBII would destroy its integrity. First inclination was to leave it as it was with a warning that it should be edited and reSAVEd only with TI XB. This wasn't really thought good enough by the funnelwebs, or even by the possums that live in the roof, so the last

major task in developing Vn 4.Ø was to eliminate the need for XB editing of LOAD.

This was handled by upgrading CONFIG so that it also configures the LOAD program as well. There are three aspects to customizing. The first of these is common to both LOAD and UTIL1 and comprizes all the boot specs, color choices, file/device names and numbers. The second is the UL (Option #7) User List function, either to be saved separately or incorporated in UTIL1. The third, relevant to LOAD only is the User List function from the XB level. In previous versions this was handled by the XB editor with program statements. CONFIG writes to the LOAD file but treats it as a generic program file for purposes of fetching it from and saving it back to disk. So CONFIG actually rewrites the XB statements directly into the tokenized program. It's easier than XB programming even, for the user anyway, There is no way CONFIG is going to duplicate the complete function of the XB line editor, and it is only just smart enough to do the job, provided the XB program has not been mucked around. Hence the warning about not editing and reSAVEing directly with XB. With XBII it is fatal anyway. The real limitation on direct editing is that all XB lines from #16Ø up must be left strictly alone and none added after #16Ø.

The sequence of the configuration process establishes the common items first before the LOAD program itself is even loaded. If you skip directly to the UL screen the settings that you are using in LOAD or UTIL1 as used to load CONFIG will be imprinted on LOAD when it is saved back to disk, so if you use several different loading paths it may be a good idea to go through the full procedure each time. LOAD may be saved back to any drive, as may UTIL1 and UL. I have more ideas on restructuring LOAD/CONFIG but sheer exhaustion has won the day now. Perhaps in some future version! Will used this idea of treating a FWB type of XB LOAD with embedded assembly code as a generic program file in his DISK-HACKER program. Also you will find that the exit from DM-1ØØØ now looks for LOAD if it can't find RELOAD/UTIL1 on the system drives. This doesn't restore XB conditions but merely loads LOAD as a generic program file and extracts the FWB code. The MG/MH files have been revised (Nov 27/87) since first issue of FWB4.Ø to fix some remaining bugs in the original (such as intense dislike of null records in Type and not allowing 3 digit entries in printer codes) and the additional entry and exit code generally cleaned up so that it is usable from FWB or directly without a second set of files being needed. The only thing there wasn't room to do was FWB style boot disk tracking for non-FWB loads. The FWB load now gets all the set-up data correctly, but ignores the color setting as from FWB you probably already have the one you want, and full screen color changes can be very jarring on the eyes. A bug of our own in reloading FWB has also been fixed. See FWDOC/UTIL for details.

So what difference does all this make ? The prime one when you are setting up is that all configuration steps are now prompted or menu driven, even for XB. You don't even have to have XB or XBII in the machine to configure LOAD. No more figuring XB color groups or which XB statement goes with which. When LOAD is RUN initial operation is now much faster, mostly because it is shorter, and it may be re-enterd by RUN after return to the XB command level, either by explicit option or because a RUN "DSKx.yy" has failed. This allows recovery from such errors without complete reload of LOAD.

When exiting remember that CONFIG rewrites the files on disk and does not change the program in memory.

It possible to add to LOAD so that a keypress bypasses boot tracking and installs a fixed drive number, for a deviant device such as the Myarc RAMdisk which might be reset to emulate different drive numbers. Why, I'm not quite sure but here's how to handle it on the fly. This is all despite the warning message against direct editing. Add line #11Ø to LOAD

```
11Ø CALL INIT :: CALL KEY(5,
K,ST,) :: IF ST =1 THEN CALL
LOAD(-232,K,K,Ø,Ø)
```

and remove the CALL INIT from

#130. SAVE to disk only with TI XB. With this addition a key held down as the program starts to execute will be installed as the fixed drive number. See FWDOC/REPT for background information.

In everyday use of FWB the most popular feature will very likely be the newly updated SD in the Editor. The beginnings of this were apparent in late editions of Vn 3.4. It is now easy while in the Editor to Mark a file in SD for Viewing on the screen while leaving the document in memory unaffected. Very handy for quick checking of the contents of another file without going through the whole save/load/reload rigmarole. The existing workfile name can be restored by <O>ldFile before exit without explicit reselection. The Print Directory and Program Check functions are unchanged. Deleting of markable files is also supported, with a cautionary pause, so that memory work is not required as with DF. Files which cannot be marked for loading by the Editor can't be deleted directly this way from SD, but then SD really has no business deleting files that the Editor can't read. The Editor enhancements from late in the Vn 3.4 development cycle are retained, notably right margin beep, crisper screen scrolling, and reduced tendency to lose keystrokes on end of line wordwrap. It is maybe worthy of note that this extra functionality of the Editor and SD does not require any extra hardware over and above a minimum 99/4a system. The same is true of FWB as a whole.

One thing I found from the pre-release is that there is a pent-up demand out there for a ruler line. I had altered the End of File message to a more elegant (to my eye anyway) form with a discreet EoF and a column number marking across the screen. This immediately set off complaints that it wasn't a full 80 column ruler. As I'm not under the delusions common to some commercial program writers that their program as handed down is perfect and immutable, I had another look at it and figured how to turn the EoF message line into a 80 column ruler that shifts with horizontal window and line # on/off. While at it I decided to have a go at providing a facility that I have long wanted - upper/lower case conversion without explicit retyping. The major upheavals for EoF on the new ruler line had left a contiguous block of 17 words for the necessary code. The best I could do for a both way conversion was 19 words of code, but Will saved the day with a improved version that fitted in exactly. Two of the four unused control keys are used, <ctrl-;> for converting to upper case, and <ctrl-.> just below it for conversion to lower case. If the letter under the cursor is not converted, these just act like a plain right arrow key.

Each of the Central Menu screens has been extended to seven entries. CONFIG allows you to set your own preferred name on the sixth and a two character associated filename. Each of these is set up as an Option 3 program file load for maximum flexibility. The Option 3 loader itself has been modified so that it will handle a wider range of files. It still hands over in the E/A USRWSP but now sets this up before loading any files. Previously it used registers and loaded R11 before final handover. So now it is more tolerant of files that load into low memory. It just goes to show how even the most worked over code still can be improved with a fresh look. Not only was the loader improved but some bytes were saved in the process.

Many people do not seem to have appreciated the relative significance of the Option 2 and 3 program file loaders. There is some difficulty with terminology here, but the practical differences are real and significant. Option 2 imitates the RUN PROGRAM FILE function of the E/A module. Why then call it "GPL" ? It's a programmer's view really. The reason is that the E/A function is handled purely by GPL code in the E/A Grom and the E/A assembly utilities are totally ignored. Also similar conditions are appropriate for other file loads from Grom and for cartridge simulations. Option 3 is very much closer to being a program (memory image) mirror of LOAD and RUN in a way that the E/A module just does not even provide. The E/A utilities are loaded, the E/A USRWSP is set, and FWB makes sure that differences in departure

points from GPL (XMLs in LOAD as against LINK) don't matter.

If the overhead of loading EA is bothersome and unnecessary in your particular application then the jump table may be altered to give the preferred type of program load. As a practical matter if you are using the E/A module or running with your FWB system files in RAMdisk, then loading of the utilities is so fast that you won't notice it anyway. The easiest place to find the byte jump table is in UTIL1 where the relevant bytes are presently located at >FFE3 and >FFEA. These are near the end of the second last sector and UTIL1 starts at >E000 so you don't have to fuss about 6 byte offsets when counting sectors and bytes. As issued these are both "I" in ASCII form. Option 2 loads are "F" in ASCII form and Option 1 are "B". You will have to do it to LOAD also, but you will find the practice on UTIL1 to have been worthwhile. We usually run from a HORIZON RAMdisk and it all zips out so fast that I have to go back to running from physical disk every so often just to see where the program is really getting files from. As always please leave your master disk in its original state for passing on.

Talking of Horizon RAMdisks brings up the first page items in CONFIG. If boot disk tracking is not enabled then you are asked to specify the system drive. Vn 4.0 allows the FWB system files to be spread over two drives. A full complement of system and user list utility files usually overwhelms the capacity of a DSSD disk. One drive may be specified for system utilities on the TI-Writer side of the Central Menu screen, and a different drive for the system files on the E/A side. The system file loaders look on the specified drive for that side first, but if the file is not found there they check the other drive too before issuing an error. The only system files not so treated are the CHR1/2 character sets. The Editor files ED/EE are common to both sides. If both primary and secondary disks are RAMdisks then the difference in speed of loading when only one copy of ED/EE is present is hardly noticeable. This feature may also be useful to users of TI original type SS disk systems or TI controllers with DS drives.

A Swedish contact informed us that he had a DSDD+ capacity RAMdisk in the Horizon style bought from Germany. News is filtering in from the US of A of 1 MByte Horizon kits. With either you wouldn't need the dual system drive feature so much , but as always there is a catch - which comes when the DM on the German price list are converted to A$. We use two DSSD Horizons as dual system drives in the machine on which this is being composed, along with a Myarc 512K as transient RAMdisk, so there is some experience before issue. The Miami UG ROS and MENU Vn 7.1 from John Johnson are installed on the Horizon with UTIL1. Some of the features of MENU are superfluous or just remain unused, but MENU and FWB do make a good combination. I haven't worked up the energy to alter it yet, as the only real annoyance is that it wipes the mailbox. Our second PE Box is up and running, with a reconditioned full height DS drive in it (new Japanese half heights cost A$200, and the old TI drives externally.

Ever since the FWB files went into a Horizon we have felt constrained by the 736 sector limit, so the dual system drive feature was developed to integrate a second Horizon into the system. The process of invention is rarely a direct one even in programming, and this addition had a round-about history. We had been conscious of the size limitation of the Horizon card, but couldn't see any easy way out. Then I happened to borrow a book on micros from the library for bedtime reading. This one had a substantial chapter on the TMS 9900 and in the discussion of the instruction set I noticed that the SWPB instruction would operate on a general address. So, I hear you ask, doesn't everyone know that ? Well, I used to, and even wrote a disassembler that knew it too, but I had never had occasion to SWPB except on a register, nor had I seen it used any other way. I know it's there plain to see in the E/A manual but I had just forgotten it could be used on a general address. Now in FWB the boot drive number is held as one byte in a data word with the other byte going to waste. Since registers are in very short supply

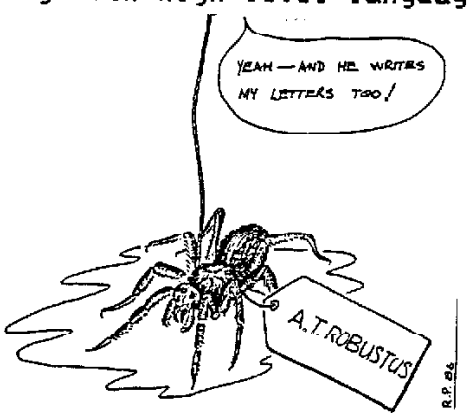
in the FWB code, the idea struck home immediately to store two drive identifiers and use SWPB to manipulate the choice. I had even had the idea before this but had dismissed it because the wrong idea on SWPB had become fixed, and there was no other easy way apparent. After that it was just a matter of detailed coding. It doesn't generalize to more than two drives but that is necessary anyway. Another area in 9900 code which always seems wasteful is the use of a whole word instead of just one bit as a Boolean flag, but the bit picking code almost always ends up using more space than bit packing saves. I wonder if Geneve leaves any of the TMS-9995 internal CRU bit storage free for the user ? Another little discovery in assembly coding was that the well known trick for incrementing a register by 4 in a one word instruction, C *R1+,*R1+ can get you into trouble - if R1 happens to point to a memory mapped address as it ended up doing in one path through a first attempt at some tricky code to make the right margin beep.

The next obvious addition in Vn 4.0 is the Low-Loader function. This fills a gap in the facilities that TI made available for the 99/4a. The major utility programs that TI provided, the E/A Editor and Assembler and the TI-Writer Editor (but not the Formatter) have most or all of their functional code in the low-mem 8K block, and use hi-mem as a large one piece data buffer. It was easy enough for TI's programmers to prepare these on their minicomputer based development systems, but the nearest the 99/4a came to it was the Minimem module, which provided LOAD and RUN functions only. Helping MM along with more functions in the cartridge RAM was probably an early educational step for many serious 99/4a programmers. The decision was made early to duplicate the function of the E/A loader, including the loading speed. This meant that E/A equivalent LOADER and DSRLNK had to be provided and by the time that was done there wasn't much more space needed to provide the complete E/A utility set even though most programs will not use them. Low-Load still uses the FWB object loader, but has to alter and restore a bunch of memory values.

Other programs have been adapted to work with Low-Loader as well. Script-Load now recognizes a global LWLD directive which causes it to use the LL utilities rather than the E/A utilities. That wasn't easy. Also the FWSAVE utility automatically recognizes Low-Load and SAVEs starting with low memory first in that case. I regularly use this to patch and reSAVE the Editor files. While on loaders, there is now only one off-screen loader entry (#8), and this one cancels autostarting of object files. FWSAVE is there mainly to provide the LSAVE function as used to prepare CONFIG, and SAVE to CS1. There just wasn't enough room to fit these in FMSAVE.

Some last minute news. A Canadian friend has recently acquired a Myarc 9640 and told me that FWB wouldn't run properly on it. Now it's not clear just how compatible the Geneve is with the 99/4a. It would appear to be less than Myarc would have you think, but only experience will tell. FWB is in fact a very well behaved program, and in the places where it goes beyond the E/A or technical manuals it is fail-safe. The obvious place where FWB pushes the E/A manual specs and the 9640 is not likely to honour them is in the console CRU bit specs as used for single key sensing in QD and SD. So I did a quick revision and sent the trial files off to Canada. The first report is that the modifications work as intended. It is a implicit commentary on the state and quality of software development for the Geneve that the matter is of interest at all.

This is enough to be going on with so I'll sign off for now and see if I can find some time for playing with high level languages.



RANDOM BYTES

WITH

BOB CARMANY

It is surprising but this column is the first of year two! It seems like just yesterday that I offered to write a column "every other month" for the HV99 UG. The "every other month" idea was rejected in favor of something on a monthly basis and that is how the whole thing got started.

Everyone should be recovered from the holidays by now and ready to "play" with some of those computer "goodies" that Santa brought. So, if you can stay away from the surf and sand for awhile, let's get started on some computing.

Here is a short XB program that has appeared in a couple of newsletters and a magazine or two. Most recently, it appeared in MICROpendium. Because it is short, you probably missed it the first time around (I did). Given the key-unit, it will display the key-code for each key press (or several keys pressed at the same time.

```
100 CALL CLEAR :: CALL SCREEN(13)::
CALL INIT :: CALL LOAD(-31806,16)::
ON BREAK NEXT :: FOR D=0 TO 12 ::
CALL COLOR(D,16,13):: NEXT D

110 CALL HCHAR(24,1,126,64)::
DISPLAY AT(3,2):"""KEY-CODES"" BY
RAY KAZMER":;:"SAN FERNANDO VALLEY
99'ERS" ::T$="?" :: GOTO 170

120 ACCEPT AT(11,16)SIZE(-1)VALIDAT
E("012345"):T$ :: IF T$="?" THEN
CALL SOUND(175,220,0):: GOTO 120
ELSE L=VAL(T$)

130 DISPLAY AT(9,1):"" :: DISPLAY
AT(13,1)BEEP:"PRESS ANY KEY OR COMB
INATION":: FOR D=1 TO 100 :: NEXT D

140 CALL KEY(L,K,S):: IF S=0 THEN
140 ELSE DISPLAY AT(13,1)BEEP:"":;:
;:TAB(12);"K= "&STR$(K)

150 FOR D=1 TO 400 :: NEXT D ::
DISPLAY AT(22,1)BEEP:"PRESS ANY KEY
TO REPEAT TEST"

160 CALL KEY(0,K,S):: IF S=0 THEN
160 ELSE DISPLAY AT(16,1):"" ::
DISPLAY AT(22,1):""

170 DISPLAY AT(9,1)BEEP:"SELECT CAL
L KEY TYPE # (0-5)":;:"     CALL
KEY("&T$&",K,S)":;:" AND PRESS
ENTER" :: GOTO 120
```

Probably the biggest news in the TI marketplace in the past several months has come from the "freeware-fairware" authors. By now, most of you should have a copy of John Birdwell's DISK UTILITIES (now in Vn 4.0). It does everything that DM1000 and DISKO will do and it is easy to use.

There are now two ARChiver programs available to us that will compress files as well as ARChive them. Al Beard came out with a FORTRAN-based ARChiver in early November that requires only the "freeware" FORTSA module to run. It is based on the Huffman compression algorithm and does a fair job. It takes two passes to do the compression and you will realise a 30% to 50% reduction in space.

The second one is Barry Boone's ARCHIVER which is based on a slightly different algorithm, the Lempel-Ziv. It is faster being written in A/L and the compression ration is much greater --- in some cases approaching a 75% reduction in size. It has the added benefit of fitting very nicely into the FUNNELWEB system as GPL load. It is even re-entrant to F'WEB!

What do these two ARChivers mean to you? Well, since they compress the files, you save considerable space (and time) in bulletin board uploads and downloads. This will save you money on your monthly phone bill because you aren't up on the board as long.

A side effect is in exchanging programs with a mate in Queensland, Lightning Ridge, or the USA. You can get between 3 and 4 disks worth of programs on a single disk when they are ARChived and compressed. How much you get on each disk depends on the programs that you are compressing.

As an example, the second side of FUNNELWEB (the docs and misc.

files), occupies some 338 sectors on a SSSD disk. ARChived and compressed, it shrinks to 197 sectors! A group of Christmas music programs occupied 226 sectors on a SSSD disk and was reduced to 65 sectors when ARChived and compressed. How did we ever do without ARCHIVER?

Here is a little trick that will allow you to change the screen and cursor color. The only restrictions are that if you create an error or execute a CALL CLEAR, PRINT, or RUN, the screen will revert back to its normal black on cyan color. Just type in the following line in the immediate mode and use whatever color you wish for the screen color.

```
CALL SCREEN(7)::ACCEPT AT(1,1):A
```

To change the screen and text color:

```
FOR I=1 TO 12::CALL COLOR(I,16,1)::
NEXT I::CALL SCREEN(7)::ACCEPT
AT(1,1):A
```

To change only the cursor color:

```
CALL COLOR(Ø,7,1)::ACCEPT AT(1,1):A
```

When the cursor appears, press <FCTN-4> and you are ready to go!

Here is a short demo from MG which uses sprites in the multi-color mode.

```
1Ø CALL CLEAR::CALL INIT::CALL
LOAD(-31788,232)::PRINT "PRESS
ENTER"

2Ø CALL KEY(Ø,K,S)::IF S=Ø THEN 2Ø
ELSE CALL SCREEN(2)

3Ø CALL CLEAR::FOR T=1 TO 7::FOR
I=34 TO 126::PRINT CHR$(I);::NEXT I
::NEXT T

4Ø FOR I=34 TO 126::CALL VCHAR(1,1,
I,768)::NEXT I::GOTO 3Ø
```

Well, that about does it for this month. Next time we will look at some subtle ways to conserve memory and increase program execution speed in XB. 'Til then . . .

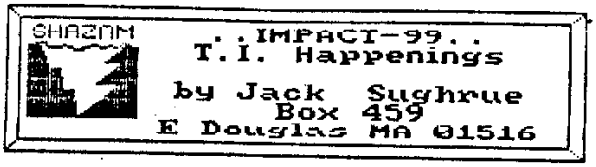
CAN YOU HELP

Since our Group details appeared in MICROpendium last year, we have been inundated with requests for newsletter exchanges from around the world. Being the kind hearted Group that we are, we would hate to have to refuse to share our magazine with the world just because of a trifling matter like a dwindling bank balance.

We were recently caught out by a SUBSTANTIAL INCREASE in the cost of printing of the newsletter, with a resulting lack of funds to pay for all these additional requests.

The Committee (God bless their hearts) decided to pass the buck back to our members to see if they are prepared to help out with mailing costs. What has been proposed is that each month the newsletters destined for overseas would be bought in to the monthly meeting and volunteers asked to mail out one newsletter each (the usual cost is about $3.6Ø per newsletter). In exchange, when the Newsletter from the group you mail to is received by the Secretary and copied, the original will be given to YOU to keep.

If you can help the group out of this financially embarrassing position get in touch with the Secretary or the Editor at a meeting. If any of the out of townes would like to participate in this project, get in touch with Albert and he will include one to be mailed out in with your Newsletter.



"JUST SURVIVAL?"

DON'T YOU BELIEVE IT! It takes quite a bit for any organization to survive. It takes quite a bit more for an organization whose base has disappeared to survive.

And yet we 99ers have done it and done it well.

It's impossible to imagine all the efforts of all the people (many no longer with us) who brought us to where we are today, YEARS AFTER THE ORPHANING! And our computer is better than ever because there are more pieces of hardware and software and firmware and, through user groups, textware, than ever before. We have become a world community. In the process our machine has become a POWERFUL tool in the home and business and education worlds.

Could you have imagined a few years ago that, with your $49.50 little "toy" computer, you could go beyond a MEGABYTE of memory and operate up to 5 QUADdenisty drives! Could you have imagined an environment so tight that you could have an advanced Wordprocessor and advanced Editor/Assembler and advanced Disk Manager all operating as an environment off ONE DISK! (not to mention a FORTHLOAD, a disk editor, a c LOAD, a pair of master menus, and piles of other things thrown in - like auto cataloging, 10 screen color choices, printing or reading any 80 file, and on and on - STILL ON THAT ONE DISK!)

Not to mention the extraordinary software: TOTAL FILER, FONTWRITER, TI ARTIST (and all the zillion files and companions and converters that can be used with it - including the remarkable RLE), CREATIVE FILING SYSTEM, SCHEDULE MANAGER, AND!!!! I'm looking through my disk file and am astonished. I have more things than I know what to do with. I have a columnizer and sideways printer and text/graphic creator (all wonderful FAIRWARE items), a WHEEL OF FORTUNE game with a robotic Vanna, a program that lets the TI <u>sing!</u>, one that writes in GOTHIC, one that creates newsletters with many fonts and graphics, one that tells fortunes with speech, Corey Cheng's remarkable cribbage game, and Nutmeg 99ers superb group disks.]

I sit here and wonder when I'm going to use it all. As a writer, I am primarily interested in ALL aspects of word processing. Having used very many processors for very many computers, I can honestly say the flexibility of FUNNELWEB is hard to beat. I love the large type of 40 columns and the easy FORMATting to 80 or 136 or whatever. As a teacher I am interested in the educational (though all programs are educational) aspects of computing in the class. I use many computers but mostly TI because it is easily the best for the stuff I do in my class (though the Apple and Commodore have more of the user-friendly printer materials like NEWSROOM and PRINTSHOP which has nothing comparable on the TI). As a game-player, I am about 20 years behind on playing all the wonderful games I own: all the INFOCOM games, all the ADVENTURE games, all the games that I haven't even created through my TUNNEL OF DOOM and ADVENTURE editing programs. (Not to mention the constructions of SPACE STATION PHETA, GRAVITY MASTER, and the intricate tutorial/play/change of NIGHT MISSION.)

HOME APPLICATIONS! I haven't yet put my checkbook files onto any of the wonderful checkbook filers I own. I haven't even indexed all my P.G. Wodehouse books onto my PR BASE or CFS for easy access. Nor my video collection onto VIDEOS. I've yet to wire my house through the TI for alarm system, light switches, auto radio/TV programs, coffeemaking. (Yet all possible with my computer.)

UTILITIES! I have utilities I can't even begin to use, many I don't even understand. Why do I keep buying this stuff?

Because I want to make my computer be as potent as a home computer can be. And it is. And I say that someday I'll learn how to use such and such. Maybe I will.

And <u>that,</u> my friends, is REALLY why I own and love my 99. I am learning. I am learning every day. I am learning every time I sit at that machine. Learning - let's face it - is great fun! The TI sits there encouraging me to LEARN.

All that stuff I said above is true. So's the fact that I've made almost 200 friends worldwide with whom I correspond regularly. So's the fact that the faires I attend are a source of immense delight to me. So's the fact that getting my monthly newsletters and magazines (like MICROpendium and COMPUTER SHOPPER) is like a continual Christmas and last-day-of-school rolled into one.

But it's the learning and sharing that really keeps me hugging my TI.

And the learning that made me evaluate my computer future.

As a teacher with a wife and four kids (all four kids were in college at the same time a couple years ago and now only two kids and one wife are still going), I have found upgrading a bit costly. I took a couple extra jobs to buy my computer in 1981 ($499.99) and held onto the jobs to get Extended BASIC ($119) and TI WRITER ($99) and LOGO ($119) and a tape recorder ($89.95) and my Expansion Package (Box, 32K, RS card, Controller, one drive) ($900). By the time the console came down to $49, I owned five (for my own kids and for my classroom use), and I had invested over $2500 in hardware, software, and textware (about 1/5 my annual take-home pay)! My wife was threatening homicide.

Justifiably.

I was (am?) a computer addict.

And Elaine became (is?) a computer widow.

Though I had fun and used the beast all the time, I was (am?) probably just a very dumb version of that genius Jim Peterson. I learned more about the TI from Jim than from the library of over 100 TI books I own. (You probably didn't know there were that many.)

I stayed involved with user groups and the writing of articles and the editing of newsletters and the

constant using and modifying of programs at home and at work.

Long after TI left us.

Long after the first big exodus.

Long after the diminishing user groups.

Long after the drying up of most sources (book stores, department stores, computer stores, magazines (like COMPUTE, HCM/99er, FAMILY COMPUTING)).

Even long after people stopped laughing at me for suggesting that the 99 was in the same class as Apple or Commodore or Atari. It isn't. It's better!

Then I thought "upgrade". Should I get an IBM clone? Or an Apple? or what?

All the computers that I use at work and elsewhere came under exacting scrutiny. Will I buy this one? Or that one?

I began, also, to try out other computers in computer stores and visit friends who let me test out their equipment. I borrowed books and magazines about other computers.

Then Triton came out with the IBM compatible converter for the TI. It was a clone that used the awful TI keyboard.

I had saved up steadily, penny by penny, since my blasts in 1981 and 1982. And now I could upgrade to a better computer. IBM/TI was one option. Now that the choice was a reality, I had to reconsider.

Back I went to my TI. To MICROpendium. To COMPUTER SHOPPER. To FUNNELWEB and SCREEN DUMP and PRINT IT and CFS and CHINESE CHESS and HITCHHIKERS GUIDE TO THE GALAXY and GRAPHX and CSGDIII and PRINTER'S APPRENTICE. And to all the programs I'd written and all the programs given to me as gifts by other TI authors and all the PD stuff. And all the great stuff from Asgard. And, most of all, all the stuff from Tigercub Software that doesn't even BEGIN to exist for other computers. There are no TIPS or NUTS & BOLTS for Apples or IBMs or whatevers.

But my SSSD drive with 32K expansion was becoming limiting.

So I went with the best upgrading I could possibly go: with the TI.

First, I bought the MYARC 512 for a bunch of reasons. I had borrowed a Horizon 192 for a few weeks and enjoyed the speed of my autoload FUNNELWEB. I thought 512 would be of more use to me (particularly as I could use as much spooler space as I wanted to print out my files while I continued merrily on with my computing) because of the immense amount it would hold. Such things as CSGD or FUNNELWEB (with my FUNLPLUS! included) could leap back and forth from file to file and spool out any text files at the same time. The RAMdisk (of the 512 card) is the greatest leap forward I could have dreamed of. It is easy and wonderful.

Next I looked through COMPUTER SHOPPER and bought (for only $75) two new, highly-recommended Tandon full-height DSDD drives. I plugged them in and used the double-sided abilities with my TI Controller.

Then my MYARC Controller came in with that superb DMIII and the inside ability to catalog from anywhere (though I wish it could Print with that built-in cataloguer the way it does with its DM). Now I can go into Myarc DM from FUNNELWEB, though DM 1000 works equally as well from that environment. Now I can configure any sided/density combinations I want (including the 512 as drive). It's so great to watch disk verification when initializing as it whips up to 1440 unflipped, instead of the old 360. No more flippies. Speed. Speed. Speed! It's even very fast to be in RAMmed FUNNELWEB with a pile of text sitting in EDITor, realize there is no initialized disk, SF to RAM, leap into DM1000, initialize a disk, leap back into EDITor, LF from RAM, and complete the task at hand without having enough time in between to get another frosty Foster's from the fridge.

I suddenly entered the new world of computing very much on my own terms. I quadrupled my disk capacity, tripled my drives, increased my memory twelvefold, added a much desired buffer of incredible size, and created a speed operational zone beyond my wildest dreams.

All this while sitting on a collection of software and textware that I haven't even begun to tap.

Let's say not another bit of textware, firmware, hardware, or software will ever be created for the TI. This won't happen (as there are presently over 700 companies - mostly Mom & Pop - making stuff for the TI) but let's pretend.

Where does that leave me?

With one hell of a great machine and lots of stuff for it! That's where. This machine will last me for the rest of my life just with what I have and what is available right now.

Then I ordered a Geneve.

Frosting on the cake.

I had seen it and used it about seven times and had talked and read about it incessantly for months. I wanted that enhanced keyboard, for one. I wanted to increase my memory beyond a MEGABYTE, for two. I wanted all the things that have been and are being written for it, for three.

I wanted to truly upgrade my system. Beyond the power and the speed and the graphic resolution of the IBM and Amiga and Atari and Apple and Commodore and ALL the other lesser machines while still keeping the incredible built-ins I came to accept as intelligently designed computerisms: RES, NUM, CALL, etc.

So here I am, a TI 99/4A addict and loving it; a man who has come to realize that what I have now is already beyond what I presently need and beyond what I can continually strive for but never beyond what I can imagine.

The Care and Feeding of DRIVES and DISKS

This article, by John Singleton, first appeared in the July 1986 issue of Bayou Byte, the Newsletter of the Bayou 99ers Users Group of Louisiana, USA

Below are a few facts and common sense items regarding disks & disk drives. Some you may have thought of yourself, some you may have learned the hard way, and some may be brand new to you.

A) If you don't have a disk in your disk drive, don't close the disk door or latch. This can cause the read heads (if double sided drive) to possibly chip, which in turn could cause your favourite disk to be eaten (or scratched or destroyed). The same is true of single sided drives. The felt pad that rests against the drive head can scratch the head, leading to possible diskette damage. When not in use leave the drive door open. However, if you are transporting the system, be sure to insert an old diskette or the original cardboard insert shipped with the disk drive and close the door. This will reduce the likelyhood of damage to the heads.

B) Be careful when inserting the diskette into the drive. Be certain the disk is fully inserted. Attempting to close the door with the disk partially inserted can mash the disk, causing loss of data or errors in reading. Diskettes with the hub rings can help centre the disk properly as the door is closed. Never force the door closed. Something is wrong - you never had to force it before, did you? Not only can forcing the door closed damage the diskette, it can also break the disk drive.

C) The quality of the diskettes is determined by many factors, but one of the most important is the size of the metal oxide chips on the diskette coating. The finer these chips, the greater sensitivity, the lower the "noise" level, and the smoother the surface (less head wear). Other important factors to consider are the binder material (the stuff that holds the metal oxide coating to the diskette), the quality of the lining material in the jacket and the evenness of the lubricating coating (again, less head wear). High quality diskette does not necessarily mean high price. There are many mail order outlets selling quality diskettes for 50% or so less than name brand prices. However, avoid "cheap" diskettes. I won't mention any brand names, but if you don't know anything about diskettes, ask others what they have used and which types have proved to be high quality but still good buys.

D) Of course, you know that diskettes and magnets don't mix, but have you considered the many sources of magnetic fields that exist around your computer area? Some of the overlooked sources of magnetic fields include the telephone, calculators, the TV or monitor, even the vacuum cleaner (all high current motors have a strong magnetic field). Don't forget all the magnets (obvious & not so obvious) including those cute little magnetic memo holders, your "stick on" CB antenna, scissors, or any steel tools, screwdrivers, pliers etc. You'll be surprised how many of your hand tools have become magnetized!

E) If you have been getting garbage or messed up data from time to time for no obvious reason, the culprit could be your monitor or TV. Some units generate enough RF (radio frequency) interference to disrupt the disk drive logic or the data on the diskette. Does your monitor sit on top of your PEB? Mine used to, but I moved it for a different reason - the PEB power supply transformer was messing up the color on my monitor. Want to check for sources of RF interference? You probably have the test gear in your home - a small portable AM radio! Tune the radio to an empty part of the band (no station broadcasting) and run the radio around the computer & monitor/TV. Listen for static and noise. Any place there is loud static or noise is a high

source of RF. Take note of those locations and don't place or store your diskettes in these areas. While you are exploring, place your little hand held calculator next to the radio and perform some maths routines. You'll "hear" the calculator thinking! These signals are too weak to harm your disks, so you don't need to worry.

F) Another source of garbage is misaligned disk drive heads. Trouble reading the data on a diskette used in more than one disk drive is a symptom of alignment problems. The data is read OK in one drive, but when moved to another drive, problems occur. You'll have to do additional checking to determine which drive has the problem. If you have a diskette that has a commercial program on it use it to see which drive is not reading correctly. In all likelyhood, that will be the drive with the alignment problem.

Most of what has been said can apply equally to cassette tapes as well. In either case, use good judgement and common sense and you'll have very few data problems.

GIVE YOUR PROGRAMS A FLOURISH

From the October 1985 issue of the Guilford 99er Newsletter comes this short program.

Here is a short program that will add a flourish to your programs. The lines can be combined into one multi-statement line if you use XB. It is originally from the Delaware Valley Users Group.

```
100 CALL SOUND(110,262,1)
110 CALL SOUND(110,330,1)
120 CALL SOUND(110,392,1)
130 CALL SOUND(298,523,1)
140 CALL SOUND(95,392,1)
150 CALL SOUND(330,523,1)
```

ELECTRONIC TABLE TENNIS SCOREBOARD

A PROGRAM BY
PAUL HULVANEY

This program evolved primarily because I could not remember the score when playing table tennis with my family, secondly to stop them from cheating and thirdly as a means of utilising the instructions from the basic class to form a useful program.
The program allows for singles or doubles, displays the team members names, the team score as large seven segment numerals, the name of the server and the number of serves. The score is incremented by the 1 and = keys. A beep announces the change of server.
The winner is the first to 21 with a 2 point lead, however the scoreboard will only go to 29 then play starts again.

After each game you have the option of playing again, if you play again you also have the option of changing partners.

A feature of the program is the extensive documentation using REM statements. This is to allow other programmers who may wish to modify or use parts of the program to easily interpet the program. I believe all programs within our community should have this feature to assist others and encourage program development by others. If anyone significantly improves or modifies this program or it triggers an idea for another program please share your efforts by publishing the result.

```
100 REM  PING PONG SCORING
 FROM HV99 BASIC CLASS 1987
110 CALL CLEAR
120 CALL SCREEN(15)
130 PRINT TAB(9);"TABLE TENN
IS": :
140 PRINT TAB(10);"SCOREBOAR
D": : : :
150 PRINT TAB(3);"1 ADDS TO
HOME TEAM SCORE": :
160 PRINT TAB(3);"= ADDS TO
OPPN TEAM SCORE": : : : : :
170 CALL COLOR(13,12,1)
180 CALL CHAR(135,"FFFFFFFFF
FFFFFFF")
190 CALL COLOR(14,4,1)
200 CALL CHAR(143,"FFFFFFFFF
FFFFFFF")
210 REM  INFORMATION ENTRY A
ND TEST
220 PRINT "SINGLES OR DOUBLE
S  <S or D>"
230 CALL KEY(3,G,S)
240 IF S<1 THEN 230
250 IF (G<>83)*(G<>68)THEN 2
30
260 PRINT
270 PRINT "MAXIMUM NAME LENG
TH 11 CHARS": :
280 PRINT
290 INPUT "HOME TEAM PLAYERS
 NAME       ":TO1$
300 IF LEN(TO1$)>11 THEN 310
 ELSE 340
310 CALL HCHAR(24,14,135,18)
320 PRINT
330 GOTO 290
340 IF G=83 THEN 410
350 PRINT
360 INPUT "HOME TEAM PARTNER
S NAME  2  ":TO2$
370 IF LEN(TO2$)>11 THEN 380
 ELSE 410
380 CALL HCHAR(24,14,135,18)
390 PRINT
400 GOTO 360
410 PRINT
420 INPUT "OPPOSITION TEAM P
LAYERS NAME":TT1$
430 IF LEN(TT1$)>11 THEN 440
 ELSE 470
440 CALL HCHAR(24,14,143,18)
450 PRINT
460 GOTO 420
470 PRINT
480 IF G=83 THEN 540
490 INPUT "OPPOSITION PARTNE
RS NAME    ":TT2$
500 IF LEN(TT2$)>11 THEN 510
 ELSE 540
510 CALL HCHAR(24,14,143,18)
520 PRINT
530 GOTO 490
540 CALL CLEAR
550 REM  DEFINE CHARACTERS A
ND COLOUR SETS
560 CALL CHAR(33,"FFFFFFFFFF
FFFFFF")
570 CALL CHAR(132,"0")
580 CALL CHAR(140,"0")
590 CALL COLOR(13,1,1)
600 CALL COLOR(14,1,1)
610 REM DIVIDE SCREEN
620 CALL VCHAR(1,17,140,384)
630 CALL VCHAR(1,1,132,360)
640 CALL VCHAR(1,16,33,24)
650 CALL COLOR(13,1,12)
660 CALL COLOR(14,1,4)
670 REM PUT ZEROS ON SCREEN
680 CALL HCHAR(6,10,33,4)
690 CALL VCHAR(7,13,33,7)
700 CALL VCHAR(7,10,33,7)
710 CALL HCHAR(14,10,33,4)
720 CALL HCHAR(10,11,132,2)
730 CALL HCHAR(6,25,33,4)
740 CALL VCHAR(7,28,33,7)
750 CALL VCHAR(7,25,33,7)
760 CALL HCHAR(14,25,33,4)
770 CALL HCHAR(10,26,140,2)
780 REM HOME PLAYER 1
790 R=2
800 C=3
810 T$=TO1$
820 GOSUB 3460
830 REM  OPP. PLAYER 1
840 C=18
850 T$=TT1$
860 GOSUB 3460
870 IF G=83 THEN 1000
880 CALL HCHAR(3,4,38)
890 CALL HCHAR(3,19,38)
900 REM  HOME PLAYER 2
910 R=4
920 C=3
930 T$=TO2$
940 GOSUB 3460
950 REM OPP. PLAYER 2
960 C=18
970 T$=TT2$
980 GOSUB 3460
990 REM  INITIAL SERVER
1000 T$=TO1$
1010 GOSUB 3510
1020 W=1
1030 Z=48
1040 C=2
```

```
1050 REM  COUNT SERVES
1060 Z=Z+1
1070 IF Z<54 THEN 1280
1080 Z=49
1090 REM  INCREMENT SERVER
1100 W=W+1
1110 IF W<5 THEN 1130
1120 W=1
1130 IF G=83 THEN 1160
1140 REM  CHANGE SERVER
1150 ON W GOTO 1170,1200,123
0,1260
1160 ON W GOTO 1170,1200,117
0,1200
1170 T$=TO1$
1180 GOSUB 3510
1190 GOTO 1280
1200 T$=TT1$
1210 GOSUB 3640
1220 GOTO 1280
1230 T$=TO2$
1240 GOSUB 3510
1250 GOTO 1280
1260 T$=TT2$
1270 GOSUB 3640
1280 C=C+2
1290 CALL HCHAR(22,C,Z)
1300 REM  ACCEPT AND TEST SC
ORE
1310 CALL KEY(0,K,S)
1320 IF S<1 THEN 1310
1330 IF K=49 THEN 1360
1340 IF K=61 THEN 1510 ELSE
1310
1350 REM   INCREMENT HOME TE
AM SCORE
1360 A=A+1
1370 IF A<21 THEN 1480
1380 REM   TEST FOR WINNING
SCORE
1390 F=A-D
1400 IF F>1 THEN 1410 ELSE 1
480
1410 CALL HCHAR(6,1,32,544)
1420 CALL VCHAR(1,16,33,24)
1430 T$="WINNER "
1440 R=12
1450 C=3
1460 GOSUB 3460
1470 GOTO 3170
1480 IF T1=0 THEN 1670
1490 ON T1 GOTO 1790,1950,20
50,2170,2290,2370,2510,2630,
2710
1500 REM   INCREMENT OPPN TE
AM SCORE
1510 D=D+1
1520 IF D<21 THEN 1640
1530 REM   TEST FOR WINNING
SCORE
1540 F=D-A
1550 IF F>1 THEN 1560 ELSE 1
640
1560 CALL HCHAR(6,1,32,544)
1570 CALL VCHAR(1,16,33,24)
1580 T$="WINNER "
1590 R=12
1600 C=18
1610 GOSUB 3460
1620 GOTO 3170
1630 REM   UPDATE OPPN SCORE
1640 IF T2=0 THEN 1730
1650 ON T2 GOTO 1870,2000,21
10,2230,2330,2440,2570,2670,
2820
1660 REM NUMBER ONE
1670 T1=T1+1
1680 CALL HCHAR(6,10,132,3)
1690 CALL VCHAR(7,10,132,7)
1700 CALL HCHAR(14,10,132,3)
1710 GOTO 1060
1720 REM
1730 T2=T2+1
1740 CALL HCHAR(6,25,140,3)
1750 CALL VCHAR(7,25,140,7)
1760 CALL HCHAR(14,25,140,3)
1770 GOTO 1060
1780 REM NUMBER TWO
1790 T1=T1+1
1800 CALL HCHAR(6,10,33,3)
1810 CALL VCHAR(11,13,132,4)
1820 CALL HCHAR(10,10,33,3)
1830 CALL VCHAR(11,10,33,4)
1840 CALL HCHAR(14,11,33,3)
1850 GOTO 1060
1860 REM
1870 T2=T2+1
1880 CALL HCHAR(6,25,33,3)
1890 CALL VCHAR(11,28,140,4)
1900 CALL HCHAR(10,25,33,3)
1910 CALL VCHAR(11,25,33,4)
1920 CALL HCHAR(14,26,33,3)
1930 GOTO 1060
1940 REM NUMBER THREE
1950 T1=T1+1
1960 CALL VCHAR(11,10,132,3)
1970 CALL VCHAR(11,13,33,3)
1980 GOTO 1060
1990 REM
2000 T2=T2+1
2010 CALL VCHAR(11,25,140,3)
2020 CALL VCHAR(11,28,33,3)
2030 GOTO 1060
2040 REM NUMBER FOUR
2050 T1=T1+1
2060 CALL HCHAR(6,10,132,4)
```

```
2070 CALL HCHAR(14,10,132,3)
2080 CALL VCHAR(6,10,33,4)
2090 GOTO 1060
2100 REM
2110 T2=T2+1
2120 CALL HCHAR(6,25,140,4)
2130 CALL HCHAR(14,25,140,3)
2140 CALL VCHAR(6,25,33,4)
2150 GOTO 1060
2160 REM NUMBER FIVE
2170 T1=T1+1
2180 CALL VCHAR(7,13,132,3)
2190 CALL HCHAR(6,11,33,3)
2200 CALL HCHAR(14,10,33,3)
2210 GOTO 1060
2220 REM
2230 T2=T2+1
2240 CALL VCHAR(7,28,140,3)
2250 CALL HCHAR(6,26,33,3)
2260 CALL HCHAR(14,25,33,3)
2270 GOTO 1060
2280 REM NUMBER SIX
2290 T1=T1+1
2300 CALL VCHAR(11,10,33,3)
2310 GOTO 1060
2320 REM
2330 T2=T2+1
2340 CALL VCHAR(11,25,33,3)
2350 GOTO 1060
2360 REM NUMBER SEVEN
2370 T1=T1+1
2380 CALL VCHAR(7,10,132,8)
2390 CALL HCHAR(14,11,132,2)
2400 CALL HCHAR(10,11,132,2)
2410 CALL VCHAR(7,13,33,3)
2420 GOTO 1060
2430 REM
2440 T2=T2+1
2450 CALL VCHAR(7,25,140,8)
2460 CALL HCHAR(14,26,140,2)
2470 CALL HCHAR(10,26,140,2)
2480 CALL VCHAR(7,28,33,3)
2490 GOTO 1060
2500 REM NUMBER EIGHT
2510 T1=T1+1
2520 CALL VCHAR(7,10,33,8)
2530 CALL HCHAR(14,11,33,2)
2540 CALL HCHAR(10,11,33,2)
2550 GOTO 1060
2560 REM
2570 T2=T2+1
2580 CALL VCHAR(7,25,33,8)
2590 CALL HCHAR(14,26,33,2)
2600 CALL HCHAR(10,26,33,2)
2610 GOTO 1060
2620 REM NUMBER NINE
2630 T1=T1+1
2640 CALL VCHAR(11,10,132,3)
2650 GOTO 1060
2660 REM
2670 T2=T2+1
2680 CALL VCHAR(11,25,140,3)
2690 GOTO 1060
2700 REM  TEST HOME TEAM FOR
 10, 19 OR 29
2710 IF T3=20 THEN 3180
2720 IF T3=10 THEN 2920
2730 REM NUMBER TEN
2740 T1=T1+1
2750 CALL HCHAR(10,11,132,2)
2760 CALL VCHAR(11,10,33,3)
2770 CALL VCHAR(6,7,33,9)
2780 T3=10
2790 T1=0
2800 GOTO 1060
2810 REM  TEST OPP. TEAM FOR
 10, 19 OR 29
2820 IF T4=20 THEN 3180
2830 IF T4=10 THEN 3050
2840 REM  NUMBER TEN
2850 T2=T2+1
2860 CALL HCHAR(10,26,140,2)
2870 CALL VCHAR(11,25,33,3)
2880 CALL VCHAR(6,22,33,9)
2890 T4=10
2900 T2=0
2910 GOTO 1060
2920 REM NUMBER TWENTY
2930 T1=T1+1
2940 CALL HCHAR(10,11,132,2)
2950 CALL VCHAR(11,10,33,3)
2960 CALL HCHAR(6,4,33,3)
2970 CALL VCHAR(11,7,132,4)
2980 CALL HCHAR(10,4,33,3)
2990 CALL VCHAR(11,4,33,4)
3000 CALL HCHAR(14,5,33,3)
3010 T3=20
3020 T1=0
3030 GOTO 1060
3040 REM  NUMBER TWENTY
3050 T2=T2+1
3060 CALL HCHAR(10,26,140,2)
3070 CALL VCHAR(11,25,33,3)
3080 CALL HCHAR(6,19,33,3)
3090 CALL VCHAR(11,22,140,4)
3100 CALL HCHAR(10,19,33,4)
3110 CALL VCHAR(11,19,33,4)
3120 CALL HCHAR(14,20,33,3)
3130 T4=20
3140 T2=0
3150 GOTO 1060
3160 REM  ANOTHER GAME?
3170 CALL SOUND(2500,440,0,6
59,2,880,5)
3180 T$="PLAY AGAIN <Y OR N>
"
```

```
3190 R=23
3200 C=6
3210 GOSUB 3460
3220 CALL KEY(3,K,S)
3230 IF S<1 THEN 3220
3240 IF K=89 THEN 3270
3250 IF K=78 THEN 3440 ELSE
3220
3260 REM  RESET VARIABLES
3270 T1=0
3280 T2=0
3290 T3=0
3300 T4=0
3310 A=0
3320 D=0
3330 CALL CLEAR
3340 REM  TEAM SWAP?
3350 T$="CHANGE PARTNERS <Y
OR N>"
3360 R=23
3370 C=4
3380 GOSUB 3440
3390 CALL KEY(3,K,S)
3400 IF S<1 THEN 3390
3410 IF K=89 THEN 220
3420 IF K<>78 THEN 3390
3430 GOTO 620
3440 END
3450 REM  PRINTING SUBROUTIN
E
3460 FOR L=1 TO LEN(T$)
3470 CALL HCHAR(R,C+L,ASC(SE
G$(T$,L,1)))
3480 NEXT L
3490 RETURN
3500 REM  HOME TEAM SERVER
3510 R=18
3520 C=3
3530 CALL HCHAR(18,19,140,11
)
3540 CALL HCHAR(20,19,140,7)
3550 CALL HCHAR(22,19,140,10
)
3560 CALL SOUND(100,294,0)
3570 GOSUB 3460
3580 T$="SERVING"
3590 R=20
3600 GOSUB 3460
3610 C=2
3620 RETURN
3630 REM  OPP. TEAM SERVER
3640 R=18
3650 C=18
3660 CALL HCHAR(18,4,132,11)
3670 CALL HCHAR(20,4,132,7)
3680 CALL HCHAR(22,4,132,10)
3690 CALL SOUND(100,600,0)
3700 GOSUB 3460
3710 T$="SERVING"
3720 R=20
3730 GOSUB 3460
3740 C=17
3750 RETURN
```

CREATE YOUR OWN ADVENTURE PROGRAM

part 3

BY

BAZZA THE MAD ADVENTURER

Module 3 becomes a little more complex but results in quite good control over input from the keyboard. The object is to obtain an appropiate response to just about any input-valid or invalid. However, multiple commands and sentences are not covered here and for the sake of simplicity the usual VERB plus NOUN is described.
If module 2 is being used just type in mod 3 with the line nos indicated plus minor changes where noted.

```
185 if a$>seg$(a$,1,1)then 600
```

This passes control to the main module if input contains more than one letter.
At the same time DELETE LINES 200,210

```
599 !to decipher inputs
600 for i=1 to len(a$)::if
seg$(a$,i,1)=" "then 620
```

This checks to ensure that input has a space somewhere before we proceed any further.

```
610 next i::print"please use two
words!"::goto 170
620 s=pos(a$," ",1)::
y$=seg$(a$,1,s-1)::z$=seg$(a$,s+1,
len(a$))
```

What we are doing here is to call the position of the space between the two words "s", then defining y$ as the first word by counting along a$ until s-1. The second word viz. z$ is defined by counting from the space plus one to the end of a$.

```
630 ! declare legal verbs and nouns
640 v$="takdro"
650 n$="keywalroptorcas"
```

Above are the verbs and nouns that are legally recognised and eventually dealt with.
Note that they are presented in three letter format, this enables input to be accepted in either the full word eg. "wallet" or the quicker "wal"

```
660 ! to decipher verbs
670 vv$=seg$(y$,1,3)
```

This picks out the first three letters of the verb input for comparison with the list in v$

```
680 for v=1 to len(v$)
690 if vv$=seg$(v$,v,3)then 710
```

Line 690 looks for the same three letter sequence in v$ and if found gets out of the loop.

```
700 next v::print"i don't recognise
";y$::goto 170
```

Note the use of the string label, this is a good memory saver and should be used whenever possible.

```
710 v=(v+2)/3
```

Another memory saver - "v" or more specifically the three letter group in v$ that is detected in the verb input, is reduced to a digit by this little formulae, thus the first group of three beomes 1 the second group 2 and so on.
This finishes the verb
The noun follows the same format.

```
720 ! to decipher noun
730 nn$=seg$(z$,1,3)
740 for n=1 to len(n$)
750 if nn$=seg$(n$,n,3)then 770
760 next n::print"i don't recognise
";z$::goto 170
770 n=(n+2)/3
```

What we have now is the verb/noun each reduced to a digit - this makes things less cumbersome and simple to trace the various combinations.
What we do now is select a line number for each verb in sequence and use the ongoto statement to deal with it finally

```
780 on v goto 500,550
```

We can now tidy up the "take" and "drop" routines. But first remove the spaces before the articles ob$ viz. wallet,torch etc. they shouldn't be there, spaces in front of obd$ is ok.

```
490 !take routine
500 for i=1 to 5::if z$=ob$(i)or
nn$=seg$(ob$(i),1,3)then 520
510 next i::print"can't ";a$::goto
170
520 if ob(i)=-1 then print"you
already have the ";ob$(i)::goto 170
530 if ob(i)<>r then print"can't see
";z$::goto 170
535 !if 1>2 then print"you are
carrying too much-if you wan't the
";ob$(i)"then you will have to drop
something!"::goto 170
540
print"ok!"::ob(i)=-1::1=1+1::goto
170
```

If line 530 is neglected then one would be able to pick up any of the objects even if they were in another room - not very realistic eh!
Line 535 is optional and brings in the ability to restrict inventory, in the eg. given the load limit would be 3.

```
549 !drop routine
550 for i=1 to 5::if ob$(i)=z$ or
nn$=seg$(ob$(i),1,3)then 570
560 next i::print"can't do
that!"::goto 170
570 if ob(i)=-1 then
print"rightyoh!"::ob(i)=r::goto 170
580 print"don't have the
";ob$(i)::goto 170
```

DELETE LINE 590

Now RES the lot if you have being following along and you have module 3.
At this stage we have the guts of the idea and only minor points need to be looked at. We will build onto this framework next.

To all the staff on our great magazine and my fellow members and readers may you all have peace and prosperity in 88

SALARY CALCULATOR

A PROGRAM BY
PAUL MULVANEY

Here is a short program to allow you to analyse your salary increase. Simply enter your old and new salary values and the yearly increase will be displayed as a dollar value and a percentage. The weekly and monthly increases are also shown.
The IMAGE statements are used to prevent the calculation being displayed to too many decimal places. If asterisks are printed instead of numbers the value is too big for the IMAGE statement. You will have to add an extra # to the relevant value in line 110, 120 or 130.
If you want to do more than one calculation replace END in 190 with GOTO 140

```
100 CALL CLEAR
110  IMAGE RAISE IS $#####.## OR
##.###%
120 IMAGE WEEKLY INCREASE IS $###.##
130  IMAGE MONTHLY INCREASE IS
$####.##
140 INPUT "OLD SALARY $":A
150 INPUT "NEW SALARY $":B
160  C=B-A  ::  D=A/100  :: I=C/D ::
W=C/52 :: M=C/12 :: PRINT
170 PRINT USING 110:C,I :: PRINT  ::
PRINT USING 120:W
180 PRINT :: PRINT USING 130:M
190 END
```

NOISES

```
1 ! Program from March 87
newsletter of SF 99er Times
of Newhall, Calif
2 ! WEIRD SOUNDS
3 CALL INIT
4 FOR C=1 TO 4
5 FOR Z=1 TO 400 STEP 8
6 CALL LOAD(-31744,Z^(1-C))
7 NEXT Z
8 NEXT C
9 CALL SOUND(1,1000,0)
10 GOTO 3
```

PLUCKING ROOSTERS

RASTIS TAKES THE AXE TO "THE ROOSTER"

This article is in response to one entitled 'SHELL METZNER SORT' by the Rooster in Dec 87 edition of HV 99'er. As everyone already knows there is no such thing as a best sort routine. It all depends on both the quantity, type of data and incoming sort state. I don't pretend that the following is in any way either mine or original, (don't you hate reading an article on a hot tip for programming only to find it almost verbatim in the manual). Information used in this article comes from the following sources in order of usefulness:

i. Australian Personal Computer Aug 87 'A Kind of Magic' page 223+

This article contains some very interesting comparisons between different sorting techniques etc.. The quick sort routine which follows comes from these pages, which in turn were borrowed from elsewhere.

ii. 99'er Home Computer Magazine Jul 83 'Never Out of Sorts' page 16+

This article gives a number of useful sort routines already in TI basic and provides some illuminating comparisons.

iii. HV 99'er 'Shell Metzner Sort' by the Rooster.

The reason for the following article due to the implied challenge issued to find a faster sort routine.

The best sort routine is one that is customised for YOUR data. In the interests of not writing a sort routine every second day a few standard routines can be used to give acceptable performance.
The following program contains 3 sort routines all of which are in SUBPROGRAMs. This makes them easy to merge into a program and use as required. For simplicity an array of up to 200 characters is set up using the internal RND function. Making each array element larger than 1 character doesn't change the relative performances and in fact makes little real time difference.

Type in the following:

```
100 I=50
110 DISPLAY AT(1,4)ERASE ALL:"*** SORT COMPARISON ***"
120 DISPLAY AT(12,1):"ENTER NUMBER OF ELEMENTS" :: DISPLAY AT(14,1):"(1-200) ";I
130 ACCEPT AT(14,10)SIZE(-3)VALIDATE(DIGIT):I :: IF I<1 OR I>200 THEN 130
140 DIM W$(200)
150 DISPLAY AT(12,1)ERASE ALL:"SETTING UP RANDOM ARRAY" :: DISPLAY AT(14,1):"ITE
MS TO GO"
160 FOR J=1 TO I
170 RANDOMIZE :: W$(J)=CHR$(INT(26*RND+65))
180 DISPLAY AT(14,12):I-J :: NEXT J
190 DISPLAY AT(12,1)ERASE ALL:"PRESS Q FOR QUICK SORT" :: DISPLAY AT(14,7):"S FO
R SHELL SORT" :: DISPLAY AT(16,7):"B FOR BUBBLE SORT"
200 CALL KEY(0,K,S):: IF S=0 THEN 200 ELSE CALL LINK("A")
210 IF CHR$(K)="Q" THEN CALL QSORT(W$(),I)ELSE IF CHR$(K)="S" THEN CALL SSORT(W$
(),I)ELSE CALL BSORT(W$(),I)
220 CALL PEEK(12288,A,B,C,D,E,F):: Z=256^5*A+256^4*B+256^3*C+256*256*D+256*E+F
230 FOR B=1 TO I :: PRINT W$(B):: NEXT B
240 PRINT : :"PRESS ANY KEY TO CONTINUE": :"TIME TAKEN =";Z
250 CALL KEY(0,K,S):: IF S=0 THEN 250 ELSE 110
260 !@P+
270 SUB QSORT(A$(),A)
280 GOTO 300
290 B :: C :: F :: G :: H :: B$
```

```
300 @=1 :: DISPLAY AT(12,1)ERASE ALL:"QUICK SORT WORKING" :: DIM E(10),D(10):: !
@P-
310 C=@ :: D(C)=@ :: E(C)=A
320 IF C<=0 THEN 520
330 F=D(C):: G=E(C):: C=C-@
340 IF G<=F THEN 320
350 B=F :: H=G :: B$=A$(B)
360 IF H<@ THEN 390
370 IF B$>=A$(H)THEN 390
380 H=H-@ :: GOTO 360
390 IF H>B THEN 410
400 A$(B)=B$ :: GOTO 480
410 A$(B)=A$(H):: B=B+@
420 IF B>A THEN 450
430 IF A$(B)>=B$ THEN 450
440 B=B+@ :: GOTO 420
450 IF H<=B THEN 470
460 A$(H)=A$(B):: H=H-@ :: GOTO 370
470 A$(H)=B$ :: B=H
480 C=C+@ :: IF B-F>=G-B THEN 500
490 D(C)=B+@ :: E(C)=G :: G=B-@ :: GOTO 340
500 D(C)=F :: E(C)=B-@ :: F=B+@ :: GOTO 340
510 !@P+
520 SUBEND
530 SUB DSORT(A$(),A)
540 GOTO 560
550 I :: R$ :: F :: !@P-
560 DISPLAY AT(12,1)ERASE ALL:"BUBBLE SORT WORKING"
570 F=0 :: FOR I=1 TO A-1
580 IF A$(I)<=A$(I+1)THEN 600
590 R$=A$(I):: A$(I)=A$(I+1):: A$(I+1)=R$ :: F=1
600 NEXT I :: IF F<>0 THEN F=0 :: GOTO 570
610 !@P+
620 SUBEND
630 SUB SSORT(A$(),Z)
640 @=1 :: GOTO 660 :: A :: B :: C :: D :: E :: Z :: B$
650 !@P-
660 DISPLAY AT(12,1)ERASE ALL:"SHELL SORT WORKING" :: A=Z
670 A=INT(A/2):: IF A=0 THEN 750
680 B=Z-A :: C=@
690 D=C
700 E=D+A :: IF A$(D)<=A$(E)THEN 720
710 B$=A$(D):: A$(D)=A$(E):: A$(E)=B$ :: D=D-A :: IF D>@ THEN 700
720 C=C+@
730 IF C<=B THEN 690 ELSE 670
740 !@P+
750 SUBEND
```

The program is setup to use the timer routine from HV 99'er called 'The Hare is Faster than the Tortoise'. If you don't wish to use this then remove the ELSE CALL LINK("A") from line 200 and delete line 220, the variable 'Z' won't cause any problem except showing an answer of 0 in line 240
If you do wish to use it then you must have the timer program on disk (name assumed to be SPEEDO) and type in

```
CALL INIT :: CALL LOAD("DSK1.SPEEDO")
```

in command mode, then run the program above.

The results listed below were obtained from an average of 3 runs, there was a reasonable variation between runs yet the relative results are correct.

SORT	200 Items	100 Items	50 Items	10 Items
Quick	3446	1554	638	100
Shell	4340	1852	723	74
Bubble	49156	12309	2726	94

Remember the results were for DIFFERENT randomly sorted lists of the alphabet. The Bubble sort doesn't even look good for short lists. The shell sort is signifigantly slower than the Quick sort above 50 items.

Just for completeness a few more runs were made with different lists. Firstly the arrays were set up to hold only the letter 'A' in each position, ie. not in need of sorting at all, lets see what happened.

SORT	200 Items	100 Items	50 Items	10 Items
Quick	3461	1520	661	97
Shell	2115	993	370	51
Bubble	192	99	54	17

You can now see why the bubble sort is still around.

Finally, just for perversity, a test to see how long each sort would take to sort the alphabet when it came in in reverse order. ie. ZYXWV.... to give ABCD..

SORT	26 Items (Reverse sorted)
Quick	630
Shell	271
Bubble	1189

From the above the very general conclusions are:

i. Use the quick sort for large numbers of items which are not already sorted;
ii. The shell sort performs reasonably well under most circumstances, this degrades as the number of items increases in an unsorted list and obviously is NOT always the best for numbers above 50;
iii. Bubble sorts are most useful in adding an item to an already sorted list.

Perhaps the easiest way out is to include all 3 sorts and give the user the option as to which one to use. SUBPROGRAMs are ideal for this.
Well, that's sort of the end of this tirade.

WHATS NEW
With
Larry Reid

I have been thinking of writing an article for our great Club Newsletter for sometime, but I'm not sure where to start, so you'll have to forgive me if it's not too good.

First, I'd better introduce myself. My name is Larry Reid, & I live in sunny Queensland, which it certainly has been a little too sunny lately, or at least a little humid, which makes it hard to sit in front of the old TI sometimes. Gee! That didn't take long to get side tracked eh! On with something you might find interesting!

First of all, some software thats just been released. PC-TRANSFER by Mike Dodd, who incidentally is only 15 years old & what a piece of Software he has produced! P C TRANSFER is designed to convert text files from a TI, to a MS-DOS DISK, & vice versa. The program allows you to view the catalogue of any MS-DOS or TI disk to check out what file you want to convert to the other format. It also allows you to format an MS-DOS disk in four different formats, and three different versions, MYARC,CORCOMP, and CORCOMP DISK CONTROLLER on the 9640. It will be run in XB or EA, & on the TI side allows one to nine drive number for RAM DISK use.

A little note on it, because MS-DOS uses a CRLF (Carriage Return Line Feed), set up to indicate the end of record for Text files, the carriage returns will not convert properly from TI to MS-DOS disk. A solution to this is to use the Replace String command of TI Writer to replace all carriage returns with some unused character. Then use what is called a Global Search, and replace on the PC, the characters with carriage returns. This also applies when you convert from MS-DOS to TI disks. Another thing, you can not only convert ASCII files only, but you can obtain this one from GENIAL COMPUTERWARE, for $25:00 U S.

Another piece of new software, is COMMAND DOS by Monty Schmidt, which can be obtained from RYTE DATA 210 Mountain St, Haliburton. Ontario. K0M 1S0.

COMMAND DOS is a programme which is a Utility or extension on the TI Operating System. COMMAND DOS gives you more control and power to your system. It is designed to load it into a Ram Device address >6000 to >7FFF. The package includes a Demo Programme, to see how a batch of files work. Commands are - BATCH, BEEP, CLS, COPY, DEL, DIR, ECHO, ERASE, FIX80, HELP, HONK, INIT, LINK LOAD, MORE, ONKEY, OUTPUT, P?, PRINT, PROTECT, Q, REF REM, RENAME, SETPRINT, TYPE, UNPROTECT, VER, VOL, WAIT WIDTH, and X FILES, which execute an external DOS FILE located on a disk. External Commands are CHKDSK, CMPDSK, EDIT40, Format. I haven't been into this one yet.

On with another piece of software. The latest version of PICASSO PUBLISHER V2.0. This program is written by Sydney author Arto Heino & is well worth the $20:00 price tag. The program allows you to MIX TEXT & GRAPHICS. Great job Arto! Now, where to start to describe this one. Well, it loads through XB, EA or MM. It allows you to build a screen for printing out 480 by 336, or 42 Row by 60 columns of text. Its commands use every key on the console to make it very versatile. I will attempt to briefly describe its commands. (sorry Arto if I don't do it justice).

BLOCK FILL (in window mode) fills rectangles in solid black. BRUSHES,gives you a choice, 32 Brush shapes; CIRCLE, allows you to draw a circle of different sizes; DRAW returns you to drawing a mode from wherever; AREA FILL, allows you to fill any shape; GET FILE,allows you to load DV 80 files; ICON, gives you a choice 5 Icon shapes you can use; INVERT,(in window mode) turns the area up side down; REVERSE,(in window mode)changes dots from white to black, or vice versa; LINES, allows you to draw lines from one point to another; MIRROR(in window mode), allows a mirror image; TEXTURES, 33 different textures to select from; BOX, allows you to draw boxs of different sizes; PRINTOUT, allows you to print it all out,in up

to 7 Overstrikes, if your ribbon will take it; RAYS, allows you to draw Rays of different sizes; SAVE FILE. needs no explaining, file type DU8Ø; TEXT INPUT, enter text upper or lower case; TOGGLE ON/OFF, PIXEL STATUS, on or off; WINDOW puts you in the Window Mode.; TOGGLE MOVE /COPY/TRANSPARENT/COPY(in window mode); JOY SPEED, fast or slow; ICON EDITOR, allows editing of Icon which are 16 X 16 pixels in size; SAVE & LOAD FONTS; SAVE & LOAD ICONS; SET SCREEN which will lock up the screens so you cannot mess up your hard work; UNDO, undoes what has been done since set screen scrawling, saving or loading; FONT EDITOR, display ASCII characters in mag form, to turn pixels on or off; ZOOM, display screen magnified form; CLEAR SCREEN, clears visible screen; FILE UTILITY MENU, allows loading TI Writer Files, graphic files of TI Artist, Overlay graphics, save current screen,Cataloging disks. Also, there are some XB Utilities on the disk. DISK PRINT, to print your Picasso files from disk; XB FONTS, MACDMP/O,BIG FONTS, for CSGD Files; ENHANCED XB, great buy at $2Ø:ØØ. 35/8 Guernsey Ave, Minto NSW 2566. Hopefully soon, he will have some Firm to handle his programme in the U S.

We're off software & onto Hardware, and what's the latest.

Well, I wouldn't call it Hardware but CORCOMP is selling selling T/Shirts & Carry Bags now, with the "99/4A REVIVAL", & "TI99/4A LIVES ON", on them. You can even get Club Name on them for an extra cost, $1Ø:95 for T/Shirts,& $12:95 for Carry Bags(U S) I'm not impressed with CORCOMP at the moment, they haven't sent my TRIPLE TECH CARD back from Repairs yet, from at least 2 Months ago.

Well, on with real hardware.

1) RAVE 99 MEMORY ENHANCEMENT SYSTEM is a new Memory Card which allows Memory Expansion for the TI-99/4A with up to 544K Bytes of backed up memory. You can put in up to four memory cards in a P.E.B. Allows access to over 2 MEGABYTES of'BACK-UP' Memory. Special "Memory Mapping" of addresses >4ØØØ - >7FFF, allows 16K BYTES of memory for assembly programmes, which allows programmes up to 48K Bytes, without any User Memory Mapping required. Two 8K Byte Back-Up DSR'S, on System Software, one for the User; Memory Back Up for about 5 days, without the use of Batteries or external power source; To extend the back up time beyond 5 days, an optional Lithium Battery may be installed.

Memory Management Software is supplied which controls the Memory Bank Switching On Card, GROM SPACE ACCESS, & loading of programmes into DSR Memories. System "Calls" from (X) Basic. Allow the selection of the 32K Memory Bank to Map into the computer as well as enabling/disabling the "GROM" memory space(>6ØØØ->>7FFF). Non DSR Space addresses > 4ØØØ -> > 5FFF is used, normally to map in Peripheral Devise Service Routine.

PRICING, three models available:-

MODEL MX/64 - $199:95(U S)
8K BYTES of memory at> 4ØØØ->5FFF & of non DSR memory & system DSR memory & User DSR Memory
32K BYTES MAIN MEMORY, Lower Power Memories are used expansion sockets to increase memory to 544K BYTES

MODEL MX/288 $299:95 U S
All features of MX/S44 with additional memory included to have 256K BYTES, of main Memory.

Model MX/544 $399:95 U S
All features of MX/288 with additional Memory included to have 544K BYTES of Main Memory.

2) HORIZON 1 MEGABYTE RAMDISK

The RAMDISK can be partitioned into several smaller ramdisk segments, each smaller segment can be made into its own Ramdisk, and can be initialized as seperate disk drives. The board uses new 32K RAM Chips. It's a joint effort between Horizon, Bud Mills, and the Miami Users Group. Cost, $45Ø:ØØ U S or you can build your own, same board as the other Ramdisk sizes with modifications are clear on what to do. Chips are expensive though! 62256LP12 $A21.66 + Tax.
Midwest Engineering Consultants,
2Ø3 Vernon Hills, ILL. 6ØØ61.

3)THE DIJIT SYSTEMS ADVANCED VIDEO PROCESSOR CARD

AVPC GRAPHIC CARD fits into the PEB,

with minor modification to the Computer Console. CRISP VIVID RGB VIDEO, 80 columns for word processing, and the potential of he card forthcoming DIGIT- EYE- ZER, that they are bringing out; 99% compatible with existing programmes, 192K of VideoRam, 512 colour pelette, high resolution bit- mapped graphics, up to 8 Sprites per line, Mouse & light pen Port, supports video overlay, supports Video Digitizing, Cost $220:0 U S ; DIGIT SYSTEMS. 4345 Hortensia St, San Diego, CA 92103.

4) THE 'GRAMULATOR

A direct equivalent for the popular, out of production, GRAM KRACKER, designed by an engineer in Massachusetts. Not in production yet, but write to Mark Van Coppenolle, 52 Audubon Rd, Haverhill M A 01830.
GRAM, 16K of RAM, (in two 8K bank at > 6000- > 7FFF. You can Back up your GROM Rom CART, acts super space > 6000-> 7FFF), allows you to use customized GROM 0, 1 & 2, capable of loading user written GPL CODE 80K of memory, with Lithium Battery Back Up.

5) PROTO TYPING BOARD

PEB PROTOTYPING BOARD, & allows for the assembly of a kit or design of a new idea. The design was inspire by the original TI PROTOTYPING BOARD. Makes the assembly of todays State -Of-The-Art Components, such as high speed static RAMS, a snap The Board also supports 9640(Geneve)

The Standard Bus Interface is predefined, requiring only the insertion of four IC'S to buffer the addressing lines data lines, and eight of the control Inputs. The address and data Buses appear in a convenient row, above the Interface Chips.

Connections to all control signals are provided, including the three additional address lines, & DMA Signals for the Geneve.
Power from an 5 Volt Regulator is distributed across the back of the Board. Space is provided for a second regulator to supply +12,-12,or -5 volts

Two RAM busses each room for four 28 pin chips, using 62256LP-12 static Rams in each location, would give you 256K BYTES before piggybacking.

There is room for the I/O Connector of your choice, to access the outside world. Extensive Documentation 60 PIN PEB BUS. Cost, $35:00 The board from USA.

The Computer Bug,
5075 Clairton BlVd,
Pittsburgh PA 1526

New Hardware looks interesting eh! Moving on to another subject.

One of the best things I've done since getting into computing, was writing away to the U S A, to make a few contacts, and end up making some really great friends, which I thoroughly enjoy writing to, and receiving mail from as well! So, I can highly recommend writing away, but it pays to give a bit of yourself when you do!

I am so glad Bob Carmany has made me feel so welcome in the club, and I do thank you. He is also a very good friend.

One of the things I thought I'd send to my friends in the U S that you might be interested in, (other than just exchanging software), is I thought I'd send them something REALLY Aussie, so I sent Bob & Harry. Harry, who live in New York State, a small bottle of Vegimite, and WHAT a Response !!! It was certainly worth the cost of sending it over there. Both had plenty to say about it, and I thought you would enjoy Harrys response, which you will find in next months Newsletter.

I'd better finish this up, otherwise, Brian mightn't find room for it all in the Newsletter. I hope it wasn't boring, if you think it's worth reading, I might write another.

If you'd like to make a comment, my address & phone number are in the list of members,

HV BASIC GROUP CLASS NOTES

prepared by Paul Mulvaney

Subroutines are used to perform a section of program that is required several times during the program. Typical examples are printing, performing a calculation or reading values into or out of an array. By using a subroutine you only have to type the set of statements once, saving time and memory.

The subroutine is accessed by the GOSUB nnn and RETURN statements. This is a similar statement to GOTO but the computer 'remembers' where the GOSUB statement occured and when the RETURN statement is encountered it returns to the next program line after the GOSUB statement.

It is normal to locate subroutines after the main program lines with a STOP or END statement preventing the computer from entering without a proper call. If the subroutine is located within the main program there must be an unconditional branch immediately before the subroutine to prevent accidental entry.

```
100 REM MAIN PROGRAM
110 .
120 .
130 .
140 GOSUB 800
150 .
160 .
170 .
180 GOSUB 800
190 .
200 .
~~~
500 END
800 SUBROUTINE
810 .
820 .
830 RETURN
```

One very useful subroutine when there is a lot of printing to be used on a graphics screen is shown below:

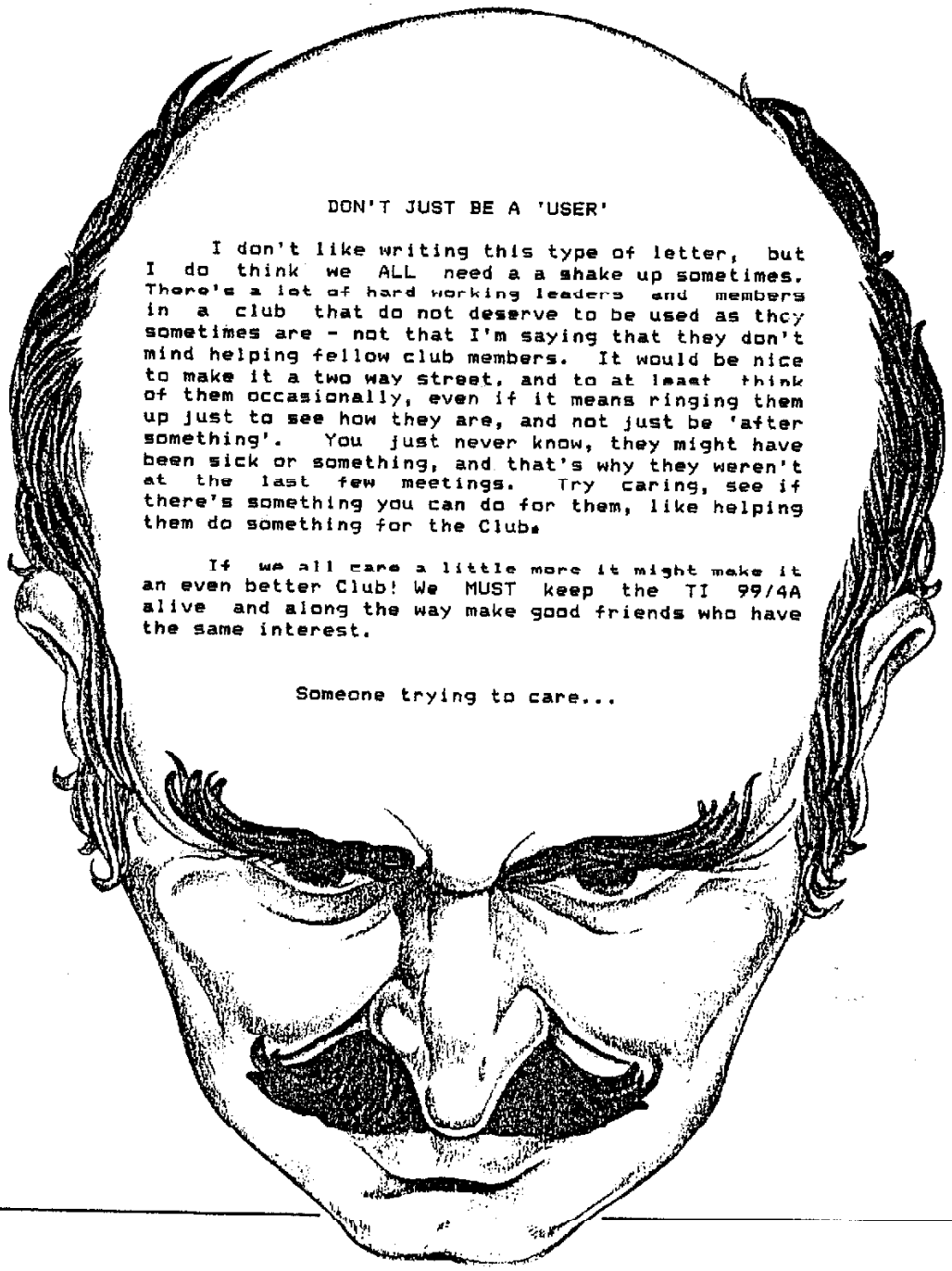
```
800 FOR L=1 TO LEN(T$)
810 CALL HCHAR(R,C+L,ASC(SEG$(T$,L,1)))
820 NEXT L
830 RETURN
```

This is a universal routine allowing you to set the row R, the column C, and the text T$ before the GOSUB statement.
Line 800 sets the FOR-NEXT loop for the number of characters in the string.
Line 810 prints the characters one after the other starting at the specified row R, C+L increments the column by one each time through the loop and the last part provides each character of the string to be printed.
The ASC function gives the ASCII value of the first character of the specified string expression.
The string expression is broken up by the SEG$ function.
The SEG$ function comes in the form of;
SEG$(string,start position in the string,length of the substring)

For the example above the string is T$, the starting position is L which starts at 1 and increments through each character, the length of the substring is set at 1 as we can only print one character at a time with CALL HCHAR.
For vertical printing use CALL VCHAR(R+L,C,ASC(SEG$(T$,L,1)))

In this form the subroutine will work if the correct parameters are assigned, next month we will look at error checks that need to be made to ensure correct operation.

THINK ABOUT IT...



DON'T JUST BE A 'USER'

I don't like writing this type of letter, but I do think we ALL need a a shake up sometimes. There's a lot of hard working leaders and members in a club that do not deserve to be used as they sometimes are - not that I'm saying that they don't mind helping fellow club members. It would be nice to make it a two way street, and to at least think of them occasionally, even if it means ringing them up just to see how they are, and not just be 'after something'. You just never know, they might have been sick or something, and that's why they weren't at the last few meetings. Try caring, see if there's something you can do for them, like helping them do something for the Club.

If we all care a little more it might make it an even better Club! We MUST keep the TI 99/4A alive and along the way make good friends who have the same interest.

Someone trying to care...

TEXAS INSTRUMENTS

BRISBANE USER GROUP

TI-BUG P.O. Box 57 Aspley 4034 Qld. Aust.

TI-99/4A EXPO

BRISBANE COLLEGE OF ADVANCED EDUCATION - CARSELDINE.
21st MAY 1988

The Texas Instruments - Brisbane User Group presents Queensland's first exposition for the TI-99/4A home computer.

In the past several years, many new products have been released for the TI-99/4A. These range from application programmes and games, inexpensive expansion systems, to advanced application hardware.

SOFTWARE	HARDWARE
Word Processors	Ramdisks
Data Base	Micro-expansion Systems
Numerous Programming Languages	IBM Keyboard Interfaces
Desk-top Publishing	RGB Interfaces
Electronic Art	512K Memory Expansion
Adventure Games	Advanced Video Graphics
Communications	Multi-function Cards
Arcade Quality Games	Hard Disk Controllers
Flight Simulators	Ram/Gram Cards

INTRODUCING the new Geneve 9640 computer from Myarc. This computer uses advanced design and programming techniques to bring you a fast, powerful computer that is compatible with almost ALL TI-99/4A programmes.

Almost all of the above and much more will be on display at the TI Expo. Demonstrations of hardware and software will introduce you to the very latest that is available for your computer.

The TI Expo is a must for all owners of the TI-99/4A home computer.

The TI - Brisbane User Group is a non-profit organization dedicated to the support of the TI-99/4A computer and its compatibles. The Group maintains an extensive programme and book library that is available to all members. The User Group publishes a monthly newsletter to keep all members up to date with the latest developements in the TI world.

For further information about the TI Expo or the TI -Brisbane User Group contact:

Mr Garry J Christensen
36 Henzell St
Kippa-Ring 4020
Qld. Aust.

or phone 07-2841841.

P R BASE
a review

by "the hub of the Hunter"
PETER SMITH

Recently a very extensive and genuinely "dinky di" review of the major data/base programs was published in that great supporter of the TI: **MICROPENDIUM** . I would suggest that anyone who has read this far should be interested enough to read page 32 of the OCTOBER issue of that great magazine.

I use P.R.B. to keep track of the children in the primary (soon also the infants) department of my school.(approx.197 children).

I used to use MULTIPLAN, as this allowed me to use numerous mathematical operations on the information which I kept, however the memory limitations meant that each class had to be kept separately and EXTERNAL COPIES of only a few items from each class had to be used if a departmental printout was required(eg. a list of names and houses and ages for the whole department)

P.R.B. overcomes the memory problem by keeping details (records) on disk.

Very large amounts of data can be kept in one record.(each small piece of data is called a field; lots of fields make a record and a collection of records make a file.).

For instance; you can have up to 32 fields in a record. 700 records/disk and each field can be up to 246 chars long.

This sort of power allows , "SOMETHING USEFUL" to be done with the TI.

USING THE PROGRAM;

There are 2 main sections of the program;

1. setting up the disk, the screen for entry of data, the output for reports and mailing lists.

2. entering and manipulating data.

Once the difficult part (in terms of organising what you want) is completed part 2. is a breeze and a delight.

A help screen is easily available from the data entry screen.

The instructions are clear in retrospect. Once the steps have been deciphered and gone through, and a fair bit of planning undertaken and executed, the program acts in a way which makes it convenient and efficient. (I have noticed that virtually any worthwhile activity needs planning and not just intuitive "hunches")

Setting up the main data screen is a busy and thoughtful task which requires planning, but so it should. A certain amount of predefined graphic characters can be incorporated into this screen to add some "panache" and "colour" to the proceedings:

REPORTS require very careful attention and experimentation. Up to 5 separate reports may be configured and called up .To set them up, you need to know about your printer codes etc. .

Disk access time, when writing and reading to disk is certainly not time consuming.

The ease of editing screens and searching for and altering data is truly a joy.

At this stage I feel like I'm warning people away from attempting to use the program, please give it a number of tries, because when it is finally under way, you will have learnt a lot about your computer and printer, and about the data you wish to use.

One of the main uses of the databases is to present specific data sorted in special ways: eg. all those children in class 5c sorted into age groups in houses alphabetically.

Unfortunately P.R.B will find this difficult unless some of the special utilities are used as,you see, P.R.B. only sorts on 2 fields.(once I have said this, someone will shoot me down please do, but show me how it can be done ....simply.....time after time.).

INDIVIDUAL SCREENS can be printed simply. I guess I'm never happy (completely that is) but I do have a WISH LIST which I would love to be able to use with P.R.B., I think that it would make it perfect for my use.
(NOTE....a very subjective point of view.)

1. MATHEMATICAL FUNCTIONS being added would allow a variety of uses.

2. A combined index and sort routine although fast, the sort routine is still rather time consuming.

3. A method of varying the size of the SORT FIELD, as it is based on 10 chars and can often involve more than 1 field in the sorting process, which can lead to errors in data output: eg. I have 2 fields side by side HOME CLASS and READING CLASS. If I sort "HOME CLASS" on say "4D", and have a "4D" in my "READING CLASS", often the child, with "4D" in "READING CLASS" will show up in the sort. This is easily fixed by careful naming your classes, but could be eliminated if the sort field length was "definable"?.

4. GLOBAL ALTERATIONS; Global searches are available, but boy, wouldn't it be nice to be able to (a)do global maths activities; eg. last year my children's ages were one year less than this year on 1/1/88. It would be great to be able to add a given quantity to a field in all records. This would allow me to change children's ages at the beginning of the year.
(b)Do the equivalent of TIWRITER'S "REPLACESTRING" that would allow easier correction of errors.

5.The ability to sort on more than 2 fields is often needed and would be an advantage to have. (eg all 8yr old boys in Newman House in class 3V)

I feel I have not done this wonderful program justice with my comments from my "wish list" as even without these functions it is fantastic and I am more than happy to recommend it to anyone. I congratulate the author for such a fine job and the support he gives to users having problems, even if they live halfway round the world from him and have simply had a glitch in printing out the comprehensive instructions.

A couple of hints...

1...When setting up the printer, I have found that **PIO.EC** works I tried just about everything else.

2...Remember that all data is kept as strings and this means that if we do a sort on "ages" we can end up with some funny results. eg 7.2, 9.6, 7.1, 10.4, 7.11 sorted from smallest to largest becomes 10.4, 7.1, 7.11, 7.2, 9.6 .
I have found it necessary to use 4 digits as follows...
07.01, 07.02, 07.11, 09.06, 10.04.

3...When using the **OPTION** facility to redirect the output to disk, make sure that you use spaces to fill the field when prompted for the output device eg..
DSK3.FILE1(and spaces until cursor stops)

I would encourage you, if you have stuck with me this far, to try the program,as it is good; but....ah well, I'd love an Alpha GTV 2000 too!

WANTED

Our jovial Software Librarian, Alan Franks, is after the Plato Module. If you have one laying around the house gathering dust contact Alan at the address or phone number on the inside front cover of this newsletter.

LITTLE RIPPER STRIP HOLDER

designed by RON PRATT

"Kleptosotwaremanius" is the latest malady to strike the TI community, and it manifests itself in the form of an inordinate desire to acquire new discs, programmes and modules at any cost. It seems that nothing will prevent the afflicted adding to his/her collection. Bills and commitments go unpaid, children and spouses go hungry and without warm clothing for the chill winter, but the newest software must be purchased at any cost!

Purchased did I say? Sometimes, sad to say, the disease takes the more extreme form of "Kleptosoftwaremaniapiratus" in which case the whole TI community is at risk of being hurt, nay maimed, by this culpable acquisitiveness.

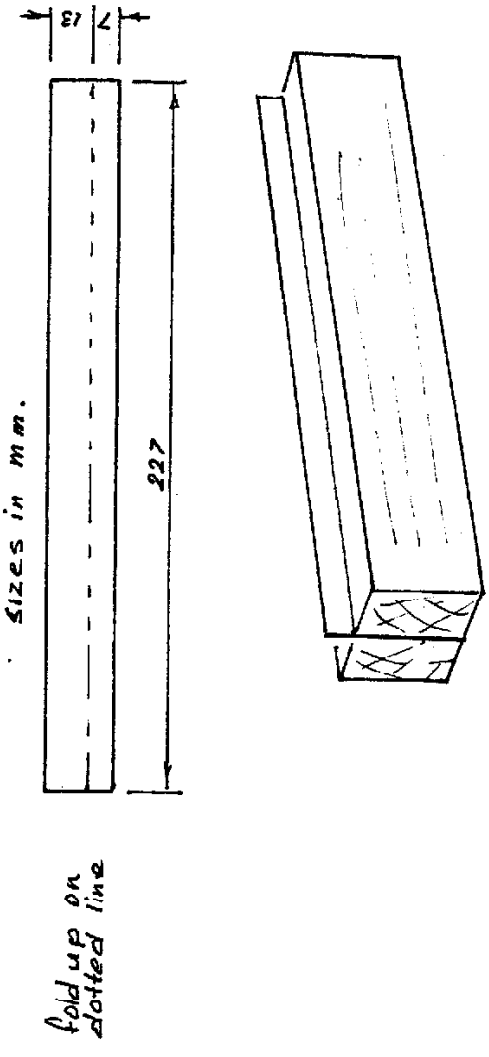
In any case the sufferer will amass a large number of programmes (note the **English** spelling throughout) some of which will have their own LITTLE STRIPS denoting special functions for the various keys. These proliferate and can become quite a nuisance; mostly when they are lost. To prevent this, I have, at great cost and personal trauma, invented the LITTLE RIPPER STRIPPER HOLDER to tame these errant strips and make them more manageable. If constructed carefully according to the accompanying diagram, it will sit complacently in the appropriate recess in your console and look up at you expectantly just aching to be filled with the aforesaid strips.

Should you be still free of the dreaded K.S.M., you may wish to take the precaution of preparing the atached strips (courtesy our Ex-Pres. Joe, not the Old. one) and a L.R.S.H. against the onset of the above symptoms. To prepare the sheet of strips, simply clip the page out and lay it carefully face down on a sheet of clear 'Contact' taking care to exclude air bubbles. Cover both sides in this way and the resulting strips will be both durable and easy to clean.

Of course, the above invention is not meant to cure K.S.M., simply make it more manageable.

HAPPY COMPUTING !

Ron Pratt.



DELETE	INSERT	ERASE	CLEAR	BEGIN	PROC'D	AID	REDO	BACK		QUIT

OOPS!	REFORMAT	SCREEN CO.OR	NEXT PARGPH	PIPE LINE	LAST PARGPH	WORD TAB	NEW PARGPH	NEW PAGE	WORD WRAP	
DEL CHAR	INS CHAR	DEL LINE	ROLL DOWN V	NEXT WINDOW	ROLL UP ^	TAB	INS LINE	COMMAND ESC	LINE #	QUIT

DEL CHAR	INS CHAR	DEL LINE	ROLL UP ^	NEXT SCREEN	ROLL DOWN V	TAB	INS LINE	ESCAPE		QUIT
DELETE	INSERT	ERASE	CLEAR	BEGIN	PROCEED	AID	REDO	BACK		QUIT

DELETE	INSERT	CONFIGURE	BREAK	MAIN MENU	PROCEED	PRINTER	REDO	MENU		QUIT

		D	/	P	A	T	C	H		
HEX	ASCII	EXIT	FWD ->	RESTART	<-BACK		REWRITE	MENU		QUIT

F	Q	R	T	H			BLANK LINE			
DELETE	INSERT	ERASE	NEXT SCREEN	WINDOW ->	<- WINDOW	ERASE->LINE	COPY LINE	EDIT EDITOR		

BAUD RATE	PRINT SPOOL	MOD/PARITY	RS232/1-/2	PR. PARITY	PRINT POR	PR BAUD RATE	HOME CURSOR		40/80 COLS	QUIT
			BREAK	WINDOW-->		TEXT COLOR	SCREEN COL	DISK CAT	FREEZE SCR	QUIT

			G	R	A	P	H	X		
SLOWER	FASTER	DRAW	ERASE	NO HELP	ZOOM	COLORS	LINES	CIRCLES	COPY	MENU

HOME	TAB	NXT UNL CELL	FORWARD CHAR	FORWARD WORD	NEXT WINDOW	REL/ABS REF				CANCEL
LOWER RIGHT			BACK CHAR	BACK WORD		HELP	RECALC	BACK SPACE	DEL FORWARD	

THE INFORMATION PAGE

IN YOUR NEWSLETTER THIS MONTH

In the News - a round-up of TI happenings	A. Wright
What is a RAMdisk?	Mid South UG
The FUNNELWEB Report	T. McGovern
Random Bytes	B. Carmany
Impact 99	J. Sughrue
Care and Feeding of Drives and Disks	Bayou 99 UG
Electronic Scoreboard - a program to type in	P. Mulvaney
DIY Adventure programming	Bazza
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What's new in Hardware/Software	L. Reid
Basic Group Class Notes	P. Mulvaney
Brisbane TI Expo 88	Brisbane UG
PR Base - a review	P. Smith
Little Ripper Strip Holder	R. Pratt

PLUS MUCH MUCH MORE!!!!!

COMING EVENTS

Next Committee Meeting: Tuesday 1st March, 1988
Next General Meeting: Tuesday 8th March, 1988

AGENDA FOR MARCH MEETING

Demo of some of the games programs available

CLASSES AVAILABLE FOR MEMBERS

BASIC class meets 16 23 February at Warners Bay High
ASSEMBLER drunks will meet 16 February - see Joe re details

ANNUAL SUBSCRIPTIONS

Subscriptions to the Group cover the period 1 July to 30 June following year. Membership enquiries are welcome; please address all enquiries to the Secretary.
The annual subscription is:
Australian Residents...$20
Overseas Residents.....$40 (airmail)
$30 (surface)

Back issues of our Newsletter are available for $1 plus postage

C#97 Current

Mr.R. CARMANY
1504 Larson St.
GREENSBORO NC.27407
U.S.A.